





7/6  
L. B.  
p. 2

LIBRARY  
Theological Seminary,

PRINCETON, N. J.

No. Case, -----  
No. Shelf, ----- Se  
No. Book, ----- No, -----

BS480  
G83



A donation to the Library  
from Levi P. Stone Esq.





# THE THREE WITNESSES,

AND

## THE THREEFOLD CORD;

BEING THE TESTIMONY

OF THE NATURAL MEASURES OF TIME,

OF THE PRIMITIVE CIVIL CALENDAR,

AND

OF ANTEDILUVIAN AND POSTDILUVIAN TRADITION,

ON THE PRINCIPAL QUESTIONS OF FACT IN SACRED

OR PROFANE ANTIQUITY.

---

BY

EDWARD GRESWELL, B.D.

FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD.

---

At the mouth of TWO WITNESSES, or at the mouth of THREE WITNESSES,  
shall the matter be established.—DEUTERONOMY xix. 15.

A THREEFOLD CORD is not quickly broken.—ECCLESIASTES iv. 12.

---

LONDON:

RIVINGTONS, WATERLOO PLACE.

PARKER, OXFORD.

DEIGHTON, BELL AND CO., CAMBRIDGE.

MDCCCLXII.

---

OXFORD :

PRINTED BY JAMES WRIGHT, PRINTER TO THE UNIVERSITY.

---



## ADVERTISEMENT.

---

THE reader of the following pages is at liberty, if he pleases, to know no more of the historical Scriptures of the Old Testament than the fact of the existence of such books, either in their own language, or in the authorized English version of the originals; nor any thing more of the actual system of time and events, which constitutes the proper chronology and proper history of Scripture, than what may be learnt from an attentive study of each of these books by itself, and a careful comparison of one of them with another.

Even after this liberal concession to the spirit of scepticism, which is so rife at the present day, and so ready to take exceptions to every presumption of the character of these books beforehand, which can be called in question without a palpable absurdity; it is still possible to shew that there are rational and satisfactory grounds of belief in the simple historical truth of those books, especially the oldest of them, not derived from themselves; and that the Providence of God has not left the accounts of his own Scriptures, not even the earliest and the most liable *a priori* to be made the subject of doubt and controversy, destitute of confirmation from corroborative testimony of THREE kinds, each of them external to Scripture, each of the highest order, and all together, where-soever they are applicable in their totality, in point of authority second only to inspiration and infallibility itself.

The object proposed by the following pages is therefore first and principally to give publicity to this argument of the Credibility of the Ancient Scriptures; and thereby to draw the attention not only of the friends, but also of the enemies,

of Revelation, to a species of evidence of its truth, which cannot be described as less than demonstrative, and yet has never hitherto been produced or appealed to in its behalf. Secondly, and as a possible consequence of this, to make more generally known also the larger and longer work of the same Author, which, without professing to aim at any such result of its inquiries, and simply in the prosecution of its own proper subject, has nevertheless, in the hands of the Divine Providence, been made the instrument in bringing this evidence to light.

The reader therefore must not be surprised to find perpetual references in “*The Three Witnesses and the Threefold Cord*” of Mr. Greswell, to his “*Fasti Temporis Catholici*” and “*Origines Kalendarie*” also. And though these may often appear obscure, and sometimes even unintelligible, to one who has no previous knowledge of the work itself, this inconvenience, it is hoped, will turn out to be only temporary; and meanwhile, for the sake of an end, which could not otherwise be attained, (a moderate-sized and cheap publication like the present,) will be excused.

*Works by the same Author, referred to in "the Three  
Witnesses and the Threefold Cord."*

---

FASTI TEMPORIS CATHOLICI AND ORIGINES KALENDARIÆ, (History of the Primitive Calendar, Part I: Origines Kalendarie Ægyptiacæ, Sinicæ, Indicæ, or History of the Primitive Calendar among the Egyptians, the Chinese, and the Hindus.) In four volumes, 8vo. Oxford, at the University Press, 1852.

GENERAL TABLES of the Fasti Catholici, or Fasti Temporis Perpetui, from A. M. 1 B. C. 4004, to A. M. 6004 A. D. 2000. 1 Volume, 4to. Oxford, at the University Press, 1852.\*

SUPPLEMENTARY TABLES, AND INTRODUCTION TO THE Tables, of the Fasti Catholici, both the General and the Supplementary. 1 volume 8vo. Oxford, at the University Press, 1852.

ORIGINES KALENDARIÆ ITALICÆ. (History of the Primitive Calendar, Part II.) Nundinal Calendars of Ancient Italy, Nundinal Calendar of Romulus, Calendar of Numa Pompilius, Calendar of the Decemvirs, Irregular Roman Calendar, and Julian Correction. Tables of the Roman Calendar from U. C. 4 of Varro B. C. 750 to U. C. 1108 A. D. 355. In four volumes 8vo. Oxford, at the University Press, 1854.

ORIGINES KALENDARIÆ HELLENICÆ; or the History of the Primitive Calendar among the Greeks, before and after the legislation of Solon; (Part III.) In six volumes 8vo. Oxford, at the University Press, 1862.

DISSERTATIONS UPON THE PRINCIPLES AND ARRANGEMENT of an Harmony of the Gospels. Second Edition. In four volumes 8vo. Oxford, at the University Press, 1837.

PROLEGOMENA AD HARMONIAM EVANGELICAM, sive de primariis nonnullis, ad Chronologiam Evangelicam spectantibus, Dissertationes quatuor. Accedunt Kalendarii Anni Sacri, ab anno A. Ch. N. 1511 usque ad A. D. 94, in annis expansis Tabulæ LXXXV: Neomeniarum Anni Sacri Tabulæ Synopticæ VI: Characterum Mensium Anni Sacri Tabula Generalis I. Oxonii, e Typographeo Academico. MDCCCXL.

\* N. B. These Tables, though published along with the First Part, are equally necessary to every succeeding Part. One copy however is competent to serve for the whole work.



HARMONIA EVANGELICA, sive Quatuor Evangelia atque Actus Apostolorum Græce, pro temporis et rerum serie in Partes Sex distributi. Editio tertia. 1 vol. 8vo. Oxonii, e Typographeo Academico, MDCCCXL.

Editio quarta. Oxonii, e Typographeo Academico. MDCCCXLV.

Editio quinta. Oxonii, e Typographeo Academico. MDCCCLV.

AN EXPOSITION OF THE PARABLES, AND OF OTHER Parts of the Gospels. Five volumes in six. 8vo. Oxford, Printed by S. Collingwood, Printer to the University, for J. G. and F. Rivington, &c. 1834.

*By the same Author.*

JOANNIS MILTONI FABULÆ, SAMSON AGONISTES ET Comus Græce. Interpretatus est Edvardus Greswell, S.T.B. Coll. C.C. apud Oxon. Socius. Oxonii, excudebat S. Collingwood, Academiae Typographus; veneunt apud J. H. Parker, &c. MDCCCXXXII.

PRELIMINARY ADDRESS OF THE ORIGINES KALENDARIAE Italicæ, lately published at the Oxford University Press, with some further observations. Oxford, John Henry Parker, &c. 1854.

# C O N T E N T S.

---

## CHAPTER I.

On the principal questions of fact relating to the Mosaic account of the  
Creation, and to early Scripture history.

- SECT. I. On the epoch *de facto*, or actual beginning, of the succession of things going on at present, called the course of Nature or the course of Time. Testimony of the three *Witnesses* .. page 1
- II. Whether the epoch of the proper measures of time of the existing system of things, thus determined, was the absolute beginning of those measures or not. Testimony of the three *Witnesses* page 8
- III. General inference from the preceding premises; and further confirmation of the same conclusions by the succession of *Æons*, according to the doctrine of Scripture, and by the discoveries of *Geology* .. .. . page 16
- IV. On the antiquity of *Man*, and of social existence, whether greater or less than the date of the Mosaic *Creation*. Testimony of the three *Witnesses* .. .. . page 21
- V. On the unity of origin of the *Human race* in all parts of the *Earth*. Testimony of the three *Witnesses* .. .. . page 26
- VI. On the *Mosaic Hexæmeron*, whether a succession of days of the ordinary length, or a succession of periods of indefinite extent. Testimony of the three *Witnesses* .. .. . page 32
- VII. On the admissibility or non-admissibility of an interval of indefinite length in any part of the first chapter of *Genesis*. Testimony of the three *Witnesses* .. .. . page 41
- VIII. On the œconomy of the first three days of the *Hexæmeron*, in having had light before the appearance of the sun. Testimony of the *Witnesses* .. .. . page 52
- IX. On the *Deluge* of Scripture, and the difficulties connected with it; and on the confirmation of the fact, in its proper order of time, by the testimony of the three *Witnesses* .. .. . page 55
- X. On the *Æra* of *Scripture*, and the *Calendar* of *Scripture*, from the *Creation* to the *Eisodus*, and from the *Eisodus* to the *Gospel Æra* .. .. . page 79
- XI. On the œconomy of *Human Redemption*; and the light reflected upon its progressive consummation by the true chronology of mundane and human time .. .. . page 89
- XII. On the two *Miracles* of Scripture, the standing still of the sun in the time of Joshua, and the going back of the sun in the time of Hezekiah. Testimony of the three *Witnesses* .. page 98

## CHAPTER II.

- On the *Pseudo-Chronology* of Mundane or Human time, that is, the account of either distinct from, and contrary to, that of the *Hebrew Scriptures*.
- SECT. I. On the *Pseudo-Chronology* of this kind, which calls itself Scriptural; the *Chronology* of the *Septuagint*, the *Chronology* of the *Samaritan Pentateuch*, and the *Chronology* of *Josephus*. page 139
- II. On the *Pseudo-Chronologies* of Profane antiquity; and first, of that of the Egyptians, and of the principal questions of fact, to the issue of which the truth or the falsehood of this in particular is reducible. . . . . page 141
- i. On the antiquity of the Principal objects of worship among the Egyptians; the *Osiris* and the *Isis* of ancient Egypt. page 143
- ii. On the antiquity of the Principal Sacred Animals of the Egyptians; the *Mnevis* of *On* or *Heliopolis*, the *Apis* of *Memphis*, and the *Goat of Mendes* . . . . . page 146
- III. On the *Monumental* and the *Dynastic* history of the Egyptians, its factitious character from the first, and its probable author or authors . . . . . page 160
- IV. On the true *Chronology* of *Mundane* and *Human* time, discoverable among the ancient Egyptians . . . . . page 172
- V. On the *Pseudo-History* and *Pseudo-Chronology* of profane antiquity, distinct from that of the Egyptians . . . . . page 184
- VI. On the bearing of the investigations of the *Fasti Catholici* and the *Origines Kalendarie* upon the study of the earliest Profane Antiquity; and on the principle of the reliance which may be placed upon the results to which they have led . . . . . page 189
- VII. Illustration of the tests or criteria of truth or falsehood in ancient historical tradition, peculiar to the *Fasti* and the *Origines*, by their application and use in *Four* remarkable cases . . . . . page 194
- VIII. On the antiquity of the *Alphabet*, and of the use of *Letters*; and on the light reflected upon that question by the discoveries of the *Fasti* and the *Origines* . . . . . page 202
- IX. On the services rendered by the *Origines Kalendarie Hellenicæ* to the study of *Grecian* antiquity . . . . . page 213
- X. On the services rendered by the *Origines Kalendarie Italicæ* to the study of *Italian* or *Roman* antiquity . . . . . page 221
- XI. On the services rendered by the *Fasti* and *Origines* to *Astronomy* in particular . . . . . page 226
- APPENDIX, Notes and Explanations . . . . . page 241

## ERRATA.

- Page 51. l. 18. for "is simply absurd" read "it is simply absurd"
93. Appendix, note R. read note S.
140. l. 31. 1648, read 1668.



# THE THREE WITNESSES, AND THE THREEFOLD CORD.

---

## CHAPTER I.

*On the principal questions of fact relating to the Mosaic account of the Creation, and to early Scripture History.*

---

SECTION I.—*On the epoch de facto, or actual beginning, of the succession of things going on at present, called the course of Nature or the course of Time. Testimony of the three Witnesses.*

i. THE mean Natural measures of Time.—The mean Natural measures of Time are three in number<sup>a</sup>, mean Noctidiurnal, mean Menstrual, and mean Annual. Of these, i. Mean Noctidiurnal is the revolution of the earth about its centre, commonly called the Diurnal Rotation; or the revolution of a given meridian from the mean sun to the mean sun again perpetually<sup>b</sup>: and the natural measure of this revolution is the period of 24 hours of mean solar time, reckoned from some one of the epochs of the mean Noctidiurnal Cycle, sunset or sunrise, midnight or noon<sup>c</sup>.

ii. Mean natural Menstrual Time is the natural Mean Luration; and the natural Mean Luration is the revolution of the moon from any state of the Phasis to the same again,—as for example, from the conjunction to the conjunction, or from the opposition to the opposition. And the natural measure of Mean Menstrual Time is the length of this revolution in mean solar time and its aliquot parts, as determined *de facto*, for any assumed epoch, by observation, and for any other, before or after, periodically corrected<sup>d</sup>.

iii. Mean natural Annual Time, as entering, and always

<sup>a</sup> Fasti Catholici, i. 16. 19. 47. 58. 71.

<sup>b</sup> Ibid. i. 47 seqq. 51 seqq.

<sup>c</sup> Ibid. i. 54, 55.

<sup>d</sup> Ibid. 58. 62: ii. 25: iv. 672.

having entered, the course of things which is going on at present, is of three kinds, mean Annual Tropical, mean Annual Sidereal, and mean Annual Anomalistic<sup>e</sup>. Of these, i. Mean Annual Tropical is the revolution of the earth in its orbit from the mean equinoctial point, (the intersection of the plane of the ecliptic and the plane of the equator,) to the mean equinoctial point again; and the natural measure of mean Annual Tropical Time is the length of the mean Tropical year in mean solar days and nights, and their aliquot parts. ii. Mean Annual Sidereal Time is the revolution of the earth from a given point in its orbit to the same again; or the revolution of the mean sun from a state of conjunction with a given fixed star to the same again: and the natural measure of mean Annual Sidereal Time is the length of this revolution in mean solar days and nights, and their aliquot parts. iii. Mean Annual Anomalistic Time is the revolution of the earth, or of the mean sun, from one of the extremities of the axis major of the solar orbit, the apogee or the perigee, the aphelion or the perihelion, to the same again; and the natural measure of mean Annual Anomalistic Time is the length of this revolution in mean solar days and nights, and their aliquot parts<sup>f</sup>.

Such being the actual existing distinctions in that complex system of things, which we call the course of nature or the course of time, as it is going on before our eyes at present; the matters of fact, established in the *Fasti Catholici* and the *Origines Kalendarie*, to which I would beg to direct the attention of the reader first of all, are these:—i. That mean noctidiurnal and annual time, traced back from the present day according to their proper law, and under their proper Julian style, respectively—(noctidiurnal in the form of hebdomadal, from a given *feria prima*, annual tropical from a given mean vernal equinox, annual sidereal from a given conjunction of the mean sun with the stars Beta and Zeta Tauri, annual anomalistic from a given conjunction of the mean sun with the apogee of the solar orbit—and all for one and the same meridian, that of the ancient Jerusalem—) are found to meet together in one year of the *Æra Before*

<sup>e</sup> Appendix, note A.

<sup>f</sup> *Fasti Cath.* i. 71. ii. 130. iii. 250. 258. iv. 509–513 Addenda. Introduction to the Tables, 202.

Christ, 4004, and in one month of that year, the month of April, and in one week of that month, April 25 to May 2, and on one day of that week, the first day or *feria prima*, and under the proper Julian style of that day and that *feria*, April 25 at midnight<sup>g</sup>.

ii. That mean natural menstrual time, being similarly traced back from the present day and from the mean conjunction for the same meridian to the mean conjunction perpetually, to this same year, and to this same week in that year, April 25—May 2 B. C. 4004; the last mean conjunction in the retrograde order from the present day to this week, and the first in the forward order from this week to the present day, is found to be determined to the fifth day and fifth *feria* of this week, under the proper Julian style of that day, April 29 at midnight. And, with respect to all the mean natural measures of time, which enter the existing system of things, thus traced back in conjunction, but each according to its own law, from the present day to this year, B. C. 4004, and to this month and this week in that year, April 25—May 2, for one and the same meridian, the ultimate state of the case is found to be *this*,—That while mean noctidiurnal, and mean annual in each of its three kinds, were meeting together, and ready to set out together, on one day and one *feria* of this week, and that the first day and first *feria* of this week, and under the proper Julian style of that day and that *feria*, April 25 at midnight, mean menstrual time was falling in with the rest, and ready to set out with the rest, in its proper place and order in the decursus of all in conjunction, on the fifth day and fifth *feria* of this week, and under the proper Julian style of this fifth day and fifth *feria*, April 29 at midnight, regularly derived from that of the first, April 25 at midnight<sup>h</sup>.

ii. Primitive Civil Calendar.—The primitive civil calendar being of two kinds, the primitive solar calendar, and the primitive lunar—with respect to the former, it has been the sole object and purpose of the *Fasti Catholici* and *Origines Kalendarie* from the first, to establish the following propo-

<sup>g</sup> *Fasti C.* ii. 130. iii. 258. iv. 503 sqq. : *Origines Kalendarie Hellenicæ*, Prolegomena, i. sqq. lvi. cxviii. sqq. clii. sqq.

<sup>h</sup> *Fasti C.* iv. Appendix, ch. v. Introduction, 40 : *Origines Kalendarie Italianæ*, Preliminary Address, xc.



sitions, viz. that the civil year, in the sense of the solar year, was originally every where the same, and every where the equable solar year of 365 days; and that this equable solar year itself was every where the same which is exhibited in the Tables of the Fasti (Division E) perpetually, and every where derived alike from one and the same epoch, the first of the primitive Thoth, *Æra cyclica* 1, the 25th of the Julian April, B. C. 4004, reckoned in each instance, according to the Julian rule, from midnight<sup>i</sup>.

With respect to the latter, it has been shewn<sup>k</sup> that the equable solar year had its proper lunar cycle, associated with it by the constitution of nature from the first, and, as the recognised measure of civil time in the sense of lunar, associated with it in use and application among mankind also from the first, and in some instances, like that of the Egyptians, retained in use and observance, unchanged and unmodified, down to an historical epoch<sup>l</sup>. And it has also been shewn that, while the original solar epoch of this primitive Civil calendar was the 8th of the primitive Thoth, the Lunar epoch was the *Luna quarta*, dated from the change, the *Luna tertia*, dated from the phasis; and the Julian style of both also, reckoned from midnight, was May 2, B. C. 4004. If the Luna 4<sup>a</sup> of this primitive Lunar calendar was dated May 2 at midnight, the Luna 1<sup>a</sup> must have been dated April 29 at midnight. So that on this point the testimony of the primitive civil calendar and that of the natural measures of time would be exactly to the same effect. And all being traced back, according to their respective laws, for one and the same meridian, to this one year, B. C. 4004, *Æra cyc.* 1, and to this one week in that year, April 25 to May 2, Thoth 1—Thoth 8, at midnight, while natural noctidiurnal, and natural annual of every kind, and primitive civil noctidiurnal, and primitive civil annual in the sense of equable solar, would all be found taking their rise on the first day of this week, in the proper Julian style of that first day, April 25 at midnight, and in the proper equable style of the

<sup>i</sup> Fasti Cath. i. 542 sqq.: Introduction, 44 sqq.: Orig. Kal. Ital. Prelim. Add. iv. sqq.: Orig. Kal. Hell. clvi. sqq. Note B, Appendix.

<sup>k</sup> Fasti, i. 97: iv. 368 sqq.: Orig. Kal. Ital. Prelim. Add. xciii. sqq.

<sup>l</sup> Fasti, iv. 383. 384.

same day, Thoth 1 at midnight, natural menstrual or lunar time, and primitive civil menstrual or lunar, would be found taking their rise on the fifth day and fifth feria of the same week, in the proper Julian style of that day, as derived from that of the first, April 29 at midnight, and in the proper equable style, as derived from that of the first, Thoth 5 at midnight.

iii. Testimony of Primitive Tradition.—The testimony of Primitive Tradition, on this point of the actual beginning of the present system of things, may be inferred from the following facts—the proper proofs of which having been assigned as circumstantially as the nature of the case admitted in the *Fasti* and *Origines*,—may be only generally and summarily recapitulated at present.

As i. The concurrence of the nations of antiquity almost every where to designate the season of spring as the natural beginning of their proper system of things—the ultimate foundation of which must have been a primitive and authentic tradition that the present world came into being in the spring—as it must have done, if it was actually created at the vernal equinox B. C. 4004<sup>m</sup>.

ii. The graduation of the sphere every where from 0° 0' 0", or the first point of Aries—which, from the nature of the case must have been either simply in accordance with a traditionary and historical rule, founded originally on a matter of fact, that of the actual commencement of the existing motions, of which the sphere is the representation, at the vernal equinox or 0° 0' 0" of the sphere itself, or capricious and arbitrary; without any assignable reason at least, to designate this point as the epoch of the sphere, more than any other on its surface<sup>n</sup>.

iii. The relation of the sphere of Mazzaroth at the epoch of the first Phœnix cycle, B. C. 1847, to the Mazzaroth sphere<sup>o</sup> of B. C. 4004; and the identity of the Tauron of Mazzaroth, April 25 B.C. 1847, with the Krion of Mazzaroth, April 25 B.C. 4004<sup>p</sup>.

<sup>m</sup> *Fasti*, ii. 67 sqq.: cf. *Origg. Ital. Prelim. Add.* lxxxi.

70. 80. and *n.*: iii. 280: *Prelim. Add.* lxxxi.

<sup>p</sup> *Fasti*, iii. 250. 258 sqq. 305. 368. 370: *Introduction*, 240, 241: *Origg. Ital. Prelim. Add.* lxxxi. lxxxii.

<sup>n</sup> *Fasti*, ii.

<sup>o</sup> *Appendix*, note C.

iv. The traditionary date of the Natale Mundi, April 25 B.C. 4004, itself; attested i. By the Chinese doctrine of the beginning of the movement of the earth on the confines of the two lunar mansions Mao and Pi, April 20, and 21 q. ii. By the institutions of antiquity, expressly commemorative of the beginning of things, or intended in honour of the Cosmogonic Powers, and attached to this date of the Natale Mundi, or to some one approximating closely to an identity with it. As i. The Lykæan solemnity of the ancient Arcadians, attached to April 25<sup>r</sup>. ii. The Panionia of the ancient Ionians, attached to April 24<sup>s</sup>. iii. The Delia of classical antiquity, attached to April 25<sup>t</sup>. iv. The Palilia of the ancient Italians, attached to April 24<sup>v</sup>. v. The Lupercalia of the ancient Etrurians, attached to April 24<sup>x</sup>.

Such are the facts, and such are the testimonies by which they are substantiated, which it is necessary to lay before the reader, preliminary to any decision on such a question as this, of the actual beginning of that complex system of things, still in existence and still going on, which we call the course of nature, or the course of time, and the origination of which we have been taught by the Bible to refer to the epoch of the Mosaic creation.

It appears from them all, that no further back from the present day than 5865 years, in the very year, which, it has often been shewn, is designated by the chronology of the Hebrew Bible as the year of the Mosaic creation itself, B.C. 4004—we find all the measures of time, both the natural and the civil, which have entered this system from the first, and are still making part of it, meeting together, and ready to set out together, in one week of that year, April 25 at midnight—May 2 at midnight, exactly in that subjection to the conditions of origination in which they must have met together, and must have set out together, in the very week of the Mosaic creation, if they ever met, and ever set out, in any such week at all—natural noctidiurnal and hebdomadal, and natural annual in each of its kinds, and primitive civil annual in the sense of solar, all on the *feria prima*

<sup>q</sup> Fasti, ii. 94 n. : iii. 352.

iii. 365–386.

<sup>t</sup> Ibid. vi. 86–120.

388 : ii. 608 : Fasti, ii. 102.

<sup>r</sup> Orig. Kal. Hell. iv. 567 sqq.

<sup>v</sup> Orig. Kal. Ital. i. 104. 289 sqq.

<sup>x</sup> Orig. Ital. ii. 455–459 : Orig. Hell. iv. 627.

<sup>s</sup> Ibid.

of this week, April 25 at midnight, for the same meridian, and natural lunar, and primitive civil lunar, on the *feria quinta* of this week, April 29 at midnight, for the same meridian.

If then this coincidence, as holding good of this one year, B. C. 4004, and of this one week in that year, April 25—May 2, is nevertheless to be considered too recent to designate this one year as the true year of the Mosaic creation, and this week as the true week of the Mosaic Hexaëmeron itself; the question is, In what year before this, and in what week of that year, is the same coincidence again to be sought for, and again to be found?

In any year later than B. C. 4004 no one would think of looking for it at present. And as to any year before B. C. 4004, whatsoever that may be supposed to be, and wheresoever discoverable, its actual characters must still be those which Scripture itself has stamped on the true year of the Mosaic creation, and on the true week of the Mosaic Hexaëmeron; and the various measures of time which have always entered and still do enter the existing system of things, wheresoever this new epoch of their origination may be discoverable, must still have taken their rise at that time also, under the very same conditions and the very same circumstances, both absolutely in themselves and relatively to each other, which we have just been explaining. The discovery of this epoch then, if any thing distinct from this year, B. C. 4004, and this week in this year, April 25—May 2, is simply the question of the proper period of Restitution of one and all of the actual measures of time, which always have entered, and still do enter, the existing system of things, from a given state or condition of their being, both absolutely in themselves, and relatively to one another, to the same again.

And with respect to such a question as that, though chronologers or astronomers only are competent fully to appreciate its bearing on the point which is under our consideration, yet ordinary common sense alone may be competent to understand that while an actual coincidence, such as I described above, even at no greater a distance of time from the present day than B. C. 4004, might be very con-

ceivable, either for the first time, by the express appointment of the Orderer and Disposer of the entire course and succession of things which is going on at present, or for a second, or a third time, or any number of times, as the natural and necessary effect of the revolution of all and singular the parts of such a system of things, in conjunction, and each according to its own law, for a sufficient length of time previously—yet to go back from B.C. 4004 to the beginning of such a revolution, for the first time, much more for the second or the third,—to find this *annus magnus* of all and singular these different component parts of the existing system of things, considered merely as the course of time—would almost exceed the power of calculation, and certainly in the present limited state of our faculties would far exceed the power of human comprehension. There is no alternative therefore, except either to acquiesce in this year B. C. 4004, and in this week of that year, April 25—May 2, however near, comparatively speaking, to our own time, which unites, *de facto*, the threads of all these different lines of time, subject to every prescribed and every required condition of origination, both in themselves and relatively to each other, as the true year and the true week of the Mosaic creation itself, or to come to the conclusion that any such thing as the historical epoch of this Creation is beyond the possibility of discovery; and the existing system of things, which we call the course of nature or the course of time, going on, as it is at present, in a certain way before our eyes, so far as we are competent to discover or comprehend to the contrary, might never have had any beginning at all,—might have gone on in the same way from all eternity.

SECTION II.—*Whether the epoch of the proper measures of time of the existing system of things, thus determined, was the absolute beginning of those measures or not. Testimony of the three Witnesses.*

This question will be decided in the negative, if it can be shewn that, notwithstanding the coincidence and comprehension of all these measures within the limits of this one week, April 25—May 2, B.C. 4004, any one of them, or



any thing indispensable to that one, goes back even a single year beyond this epoch of April 25, B. C. 4004.

i. Mean Natural Measures of time.—i. Mean Noctidiurnal time, traced back, whether by itself or in the form of mean Hebdomadal, according to its proper law from the present day to B. C. 4004, as we have seen, will not stop short of April 25, the *feria prima*, that year. And if it passes regularly up to this point of time, April 25, the *feria prima* at midnight, B. C. 4004, there would be nothing in the nature of this measure of time itself to prevent its passing beyond it. But whether it did so or not, could be known only from testimony. And though testimony to this effect, viz. that the proper hebdomadal cycle of the existing system of things is older *de facto* than the Mosaic creation, may not be wanting in Scripture<sup>z</sup>, it is not necessary for the proof of the point with which we are concerned at present; and therefore I shall not produce it, nor make any observations upon it.

ii. Mean natural annual time, tropical, sidereal, and anomalistic, traced back in like manner, for the proper meridian, from any assignable epoch, each according to its proper law respectively, will not stop short of April 25 at midnight, B. C. 4004; and any of these too, if it passed backwards *up* to that epoch, in its own nature would be capable of passing beyond it; though whether it did so or not, must be determined, in this instance also, either by testimony *ab extra*, or by necessary considerations of some other kind.

iii. Mean natural lunar time, traced back in like manner from conjunction to conjunction for the proper meridian, will not stop short of the conjunction of April 29 at midnight B. C. 4004. And this being the fifth day of the Hexaëmeron of Scripture, assumed to have borne date April 25 at midnight the same year, and the visible appearance of the moon in that week being determined by the testimony of Scripture itself to the *fourth* day<sup>a</sup>, the inference from these two facts is obvious, viz. that the *first* visible moon of the Hexaëmeron was the *last* phasis of the old moon, not the *first* of the new. In other words, the moon, which first became visible along with the sun, on the *fourth* day of the Hexaë-

<sup>z</sup> Fasti, ii. 371 n.

<sup>a</sup> Ibid. ii. 14.

meron, was 29 days old at least. And the bearing of this inference on the present question is obvious also, viz. that, though the epoch of the mean lunar time of the existing system of things, reckoned from the first conjunction, *de facto* was April 29 at midnight B. C. 4004, for the proper meridian, the mean lunar time of the system itself must have gone 29 days at least beyond that epoch.

ii. Primitive Civil time. Primitive Civil time, traced back, in the form of equable solar, in any quarter of the world, from any epoch in its decursus later than B. C. 4004, will not stop short of the first of the Primitive Thoth, *Æra cyclica* 1, the 25th of April B. C. 4004<sup>b</sup>. But as civil time of any denomination, and under all circumstances, is necessarily human and social time, whether Primitive civil time in this form of equable solar will pass beyond this epoch of Thoth 1, April 25, B. C. 4004, depends on the further question, Whether human and social existence also, with which it was connected from the first, will pass beyond the same epoch or not.

It has however been shewn in various parts of the *Fasti* and *Origines* that, as the natural form of the civil time of the existing system of things, both noctidiurnal and annual, is mean tropical, treated *pro tempore* as mean Julian, and the natural positive or conventional type of mean natural noctidiurnal and annual time is mean Julian periodically equated to mean tropical; so there is nothing in the nature of things to prevent our carrying back the mean natural noctidiurnal and annual time of the existing system of things from the present day to the very beginning, in a series of TYPES, such as are exhibited in the Tables of the *Fasti*, standing in an equal relation both to mean annual tropical time, treated *pro tempore* as mean Julian, and to mean Julian, periodically equated to mean tropical<sup>c</sup>. And this being done accordingly, and mean natural noctidiurnal and annual time being carried back in this form of proleptical Julian, in one and the same cycle of leap-year, and one and the same cycle of 28 years, from the present day to B. C. 4004, an anomaly in the succession, of great importance to the question under consideration at present, begins to appear just as we get up to this

<sup>b</sup> Cf. *Fasti*, i. 473 sqq.  
Kal. Hell. Prolegomena, xxxiv. sqq.

<sup>c</sup> Introduction to the Tables, 29 sqq. Origg.

point; viz. that, though the cycle of 28 years, reckoned from March 1 at midnight perpetually, will not pass beyond this term of March 1 at midnight B. C. 4004, the cycle of leap-year, similarly reckoned, will not stop short of March 1 at midnight B. C. 4005, and therefore the epoch of origination of the former must differ from that of the latter by one year at least <sup>d</sup>.

We are made aware of this distinction by a nice and critical discovery, the particulars and process of which were explained in the Introduction to the Tables of the Fasti<sup>e</sup>. And proleptical Julian time, as the conventional type of actual natural annual time, measured by the same cycle of leap-year perpetually, and that the proper cycle of the existing system of things, thus passing one year at least beyond this epoch of March 1 at midn. B. C. 4004, the inference from that fact is obvious; viz. That natural annual time also, constantly represented by proleptical Julian, must pass one year at least beyond this epoch of March 1 at midn. B. C. 4004. The first mean natural type, which enters our Tables, must have taken its rise, as much as the first mean Julian, according to the proper Julian rule, on March 1 at midn. B. C. 4005. If so, the mean natural noctidiurnal and annual time of the present system of things must go back *one* year at least, beyond the epoch of the Mosaic Hexaëmeron, April 25 at midn. B. C. 4004.

But this is not all, which we have to say on this point. The actual phenomenon, brought to light by this method of the *Reditus retro* with all the natural measures of time, and in particular with the mean natural, in the very same steps in which they came down, is not that, which we have hitherto supposed, of their meeting together at last, for the proper meridian, on April 25, B. C. 4004, at midnight exactly, but on April 25 at 0 h. 0 m. 21·6 sec. past the point of midnight the same year <sup>f</sup>. And though this may appear at first sight a trifling distinction, it is in reality truly significant and truly important on this question, Whether any of the natural measures of time of the present system of things, and in particular the natural tropical and the proleptical Julian, instead

<sup>d</sup> Fasti, ii. 35. 45-58.<sup>e</sup> Pag. 170-193.<sup>f</sup> Fasti, iv. 503-509. 522, 523.

of stopping short at this epoch of March 1 or April 25 at midnight, B. C. 4004, may not, or rather must not, pass beyond it.

It is capable of being proved from the necessary relations of mean annual tropical time of the standard of the Fasti (which, as we have shewn elsewhere, is the true mean natural standard of the existing system of things), and mean annual Julian *inter se*, that if there was such a difference *de facto* between them, April 25 B. C. 4004, that mean Julian was entering the system at that time at midnight, and mean tropical was doing so at 0 h. 0 m. 21.6 sec. past midnight, mean annual tropical time of our standard and mean annual Julian could have set out together from the epoch of midnight only 129 years at least before B. C. 4004; and to find the true year, anterior to B. C. 4004, when both must have been setting out on the same Julian day at the point of midnight exactly, we must go back to B. C. 4133 at least. And it is further capable of demonstrative proof, that if they were not setting out in conjunction, under such circumstances, even then for the *first* time, we must go back 516,000 years beyond B. C. 4133 itself at least, to arrive at the time when they could have been setting out at the point of midnight last before<sup>h</sup>.

iii. Primitive Tradition. i. It has been seen that, according to the scripture account of the œconomy of the Hexaëmeron, the *first* phasis of the actual moon of the present system of things was the *last* phasis of the moon of the Hexaëmeron itself; and therefore that the actual lunar time of the present system, reckoned from conjunction to conjunction perpetually, must have gone back one mean lunar conjunction at least beyond the fifth day of the Hexaëmeron. Now that is confirmed i. By the Egyptian tradition, which dated the Γένεσις κόσμου on the 29th Luna, not on the first. ii. By the Chaldean tradition, which dated it on the 28th, only accidentally different from the 29th. iii. By the Persian tradition, which reckoned the first day of the Hexaëmeron, the Natale Mundi itself, the 25th Luna; as it must have been, if the fifth day was the first<sup>i</sup>.

<sup>κ</sup> Chapter ii. Section xi.

<sup>h</sup> Fasti, ii. 33-35. iv. 522, 523. 550-557.

<sup>i</sup> Fasti, iv. 309-371.



ii. It has just been seen that the true Julian time of the present system of things, carried backwards perpetually from the present day in the true cycle of leap-year of the system, must pass one year at least beyond the epoch of April 25 or March 1 at midnight B. C. 4004; i. e. to April 25 at midn. or March 1 at midn. B. C. 4005 at least. And March 1 at midn. B. C. 4005, as the epoch of the first actual cycle of leap-year of the system, according to the proper Julian rule, it is evident would be only accidentally different from any other epoch of the cycle, positively assumed, six or seven months earlier; as for instance July 22 B. C. 4006.

And with respect to such an assumption, as matter of fact, it has been shewn<sup>k</sup> that the first discovery of the Julian principle of the reckoning of annual time, or the first application of that principle in practice, was made by the ancient Egyptians; and that they had *two* principal types of the Julian reckoning, one of them much older than the other, which I have called the Phœnix type, because it came into being in the same year as the Phœnix cycle<sup>l</sup>, the one Nov. 18 B. C. 1848, the other April 8 B. C. 1847.

Now the epoch of this type, Nov. 18 B. C. 1848, reduced to the Julian cycle of the present day, having fallen in the *second* year of this cycle, not in the first, (B. C. 1849,) much less in the fourth, (B. C. 1850,) it is manifest that the reckoning of this type, though strictly a Julian one of its kind, could not have been that of the true proleptical Julian time of the system from the first. Whether the Egyptians instituted this type in an ignorance as yet of that fact, or deliberately, and with a knowledge of it beforehand, I cannot undertake to say. In either case, the matter of fact afterwards discoverable will be the same; viz. that 500 years after the institution of this type, along with the rise of the national fable of Osiris and Isis, and the institution of the national solemnity of the Isia, and of the reckoning of the first Sothiacal period, B. C. 1350<sup>m</sup>, another type of the Julian reckoning of annual time came into being among the Egyptians also, with a proper cycle of leap-year altogether different from that of the Phœnix type, and (with no further difference

<sup>k</sup> Fasti, iv. 171-183.<sup>l</sup> Appendix, note E.<sup>m</sup> Ibid. note F.



than the accidental distinction above alluded to") altogether the same with the cycle of leap-year of the Julian time of the present day, and through that with the cycle of the proleptical Julian time of the system from the first. And it is an obvious inference from this fact that, even if the ancient Egyptians were not yet aware of the true cycle of leap-year of the Julian time of their proper world, when they instituted their Phoenix type, they must have become aware of it before they instituted this second type, which, as having come into being along with the Sothiacal period, in contradistinction to the former, I have called the Sothiacal type.

Now the epoch of the Sothiacal Period, and that of this Sothiacal type of the Julian reckoning which came into being along with it, having been July 22 B. C. 1350, and the rise of the national fable of Osiris and Isis also having been coincident with both; it is very important to this question of the proper epoch of the Julian time of the present system of things, as known or not known traditionally to the antediluvian and postdiluvian world, that the attention of the reader should be directed to some of the most peculiar and most esoteric of the doctrines of the Egyptians with respect to this Period and to the accompanying national fable—viz. That the positive epoch of the Period was the first manifestation of the star Sirius, rising in the morning twilight—that the stated date of this phenomenon every year for the latitude of On or Heliopolis in Egypt, was July 20—that the name of this star, which the Greeks called Sirius, but the Egyptians Sothis, was only another name for Isis—that the manifestation of Sothis every year was only the manifestation of Isis in the form of that star every year also—that the *πρωτίστη ἀνατολή*, the very first manifestation of that kind of all<sup>o</sup>, whensoever it occurred, was consequently the very first manifestation of Isis, and by parity of reason the *birth* of Isis—that the meaning of Sothis, the Egyptian name of Sirius, was that *ὁ κύων* in Greek, the *conceiving* star, the star of *conception*—that consequently the very first manifestation of Isis in the form and under the name of this star was the manifestation of Isis in the act of conceiving, or as having

<sup>n</sup> Page 13.

<sup>o</sup> Cf. Fasti, iii. 198.

already conceived, something—that, as to what this something was, according to the doctrine of the Egyptians, Isis was the mother of the *Sun*, the mother of the *Heavens*, the mother of the *Universe*, and consequently what she was first manifested as conceiving, or having conceived, according to this doctrine, must have been the material world—that the recognised interval, between conception and parturition, in such mystical cases as these, wherein the laws of the human nature and those of the divine were blended together, and operated alike to the desired effect, according to the Egyptians also, was the greatest of which human nature in particular seemed to admit, 280 days. And having been made aware of this peculiar doctrine and belief of the Egyptians, let the reader go back from the historical epoch of the first manifestation of Isis-Sothis, as that of the first Sothiacal Period also, July 20 B.C. 1350, to July 20 B.C. 4006, as the assumed date of the *πρωτίστη ἀνατολή*, the very first manifestation of that kind; and then reckon 280 days from July 20 B.C. 4006, and he will find himself brought to April 25 B.C. 4005, the date of the *birth* of that at last which Isis-Sothis had first been represented *conceiving*, July 20 B.C. 4006, and the date also of the true *Natale Mundi* of the present system of things, merely transferred from the second year of its proper cycle of leap-year, B. C. 4004, to its first, B. C. 4005<sup>p</sup>.

If the cycle of leap-year, which is in use at the present day, is the true cycle of the Julian time of the existing system of things, it is due, humanly speaking, to an accidental coincidence; viz. that Julius Cæsar, from whose correction of the Roman calendar we derive the Julian reckoning of the present day, before he could carry his projected correction into effect, was obliged to spend eight or nine months in Egypt, and in the course of that residence it was that he became acquainted with the Sothiacal type of the Julian reckoning, and its proper cycle of leap-year, both of them afterwards embodied in his own correction<sup>q</sup>. I have called that an accidental coincidence; for so it might appear to a superficial view of the mode in which it was brought about: though in

<sup>p</sup> Cf. Fasti, iii. 29–36. Origg. Kal. Hell. iv. 129–134.

<sup>q</sup> Cf. Origg. Kal. Ital. iii. 522 &qq.

reality it was only one in a series of remarkable dispensations of Providence, (and not the last even of those,) exemplified in the history of the Roman calendar from the time of Romulus and Numa Pompilius to that of Julius Cæsar, all preparatory to, and all actually issuing out at last in, this consummation of the adoption of the true reckoning of mundane time on the Julian principle from the first, as the reckoning of the civil calendar on the Julian principle also, even at the present day<sup>r</sup>.

SECTION III.—*General inference from the preceding premises; and further confirmation of the same conclusions by the succession of Æons, according to the doctrine of Scripture, and by the discoveries of Geology.*

From such facts then as these, it must necessarily be inferred that, though the Mosaic Hexaëmeron, thus determined to April 25—May 2 B. C. 4004, may be, or rather must be, the actual epoch of that constitution of things which we call the course of nature, or that of time, as both are going on at present, it cannot have been the absolute epoch and origin of all and singular of its component parts. The mean lunar time of the system must pass one month at least beyond the Mosaic Hexaëmeron: the mean or actual Julian time of the system must pass one year at least beyond it: the mean natural annual time of the system, in conjunction with the mean Julian perpetually, must pass 516,133 years at least beyond it. And if the mean tropical, along with its proper Julian type, thus passes beyond it, the mean sidereal and the mean anomalistic time of the system, along with their respective Julian types also, may well be assumed to pass beyond it too. And this inferencce, respecting the absolute primary epoch and origin of all the constituent parts or elements of the course and succession of things, as going on at present, so obviously deducible from such premises as these by themselves, may be further confirmed by the testimony of Scripture to the scope and comprehension of its own chronology.

This subject, of the chronology of Scripture in its widest

<sup>r</sup> Fasti, ii. 36-45.

extent, will be found to have been treated of in one of the Dissertations of the *Fasti*<sup>s</sup>; and with all the minuteness and circumstantiality which the proof of the truth on that point, from the materials supplied by Scripture itself, appeared to require. If we go over the same ground again here, it must be only in a general and summary manner.

It has been shewn then in this Dissertation, i. That the retrospect, taken by Scripture, of the succession of Duration measured by Time<sup>t</sup>, anterior to the Christian dispensation, anterior to the Mosaic, anterior to the Hexaëmeron, all alike, extends *de facto* to the very first act of creation, the production of the very first world, and to its proper epoch in time, whatsoever that was.

ii. That, assuming this epoch of the first act of creation as its point of departure, the inspired chronology of Scripture reckons the duration of created existences, as measured or measurable by time perpetually, in a succession of Periods, all of which in common it calls by the name of *Αἰῶνες* or *Æons*, and therefore supposes to have been possess of the nature of an *αἰὼν* or *Æon* in common; that is, of that length or degree of the measure of duration by time, whatsoever it is, to which its own idiom restricts this name of an *Æon*.

iii. That it authorizes us to infer that there has been a series of such *Æons*, greater or less in number, *before* the Mosaic cosmogony, and that there will be a similar series of *Æons*, destined to go on for ever, after the Mosaic creation, and every thing included in it, or connected with it, shall have served its time, and fulfilled its purpose, and consequently come to an end.

iv. That it gives us reason to conclude that the *αἰὼν*, which stands in the same relation to both these series, (as some one must necessarily do,) next to the last in the series of *æons* past, and next to the first in the series of *æons* to come, is that which came into existence with the Mosaic cosmogony itself, the *αἰὼν*, which has been *in decursu* ever since the first day of the Mosaic Hexaëmeron, and is not yet at an end; the *αἰὼν ἐνεστὼς*, properly so called, the *æon* which we mean when we speak of the present world<sup>v</sup>, in the sense of the

\* Vol. ii. 268-381. Dissert. xii.

<sup>t</sup> Cf. *Fasti*, i. 2-4 sqq.

<sup>v</sup> *Fasti*, ii. 297. 299.



course of nature, or the course of time, as both are going on at present, and have been within all human memory.

v. And lastly, having thus given us reason to conclude that the αἰὼν ἐνεστῶς, the æon which bears date from the Mosaic creation, is but one of a general succession of the same kind, before and after itself, differing from all before it, and from all after it, not in its nature, as an αἰὼν, but in its order of time and place, in a general succession of such æons, it authorizes us also, from the length or measure of this individual æon, so far as it is discoverable through the intimations of Scripture itself, to infer the probable length and measure of every æon, before or after this. That is, if there is reason to conclude from the data supplied by Scripture that the duration of the Mosaic αἰὼν, the αἰὼν ἐνεστῶς, is destined to be neither more nor less than 7000 years, without pretending or presuming to be wise beyond what is written, we may argue from the analogy of the case of this one αἰὼν that the proper length of every other before or after it has been or will be probably 7000 years likewise, a week of millennia, in all these cases alike, analogous to the week of days, in the measurement of human time in the sense of that of our own world, and, as we have the assurance of Scripture<sup>x</sup>, to the Divine apprehension altogether the same as the week of days to the human.

And yet this is not all which may be said on this subject. There is reason to conclude, if not from the express testimony of Scripture, yet virtually with its sanction, and on the strength of many grave and serious considerations, which human reason itself, arguing merely from the facts of the past, is competent to suggest<sup>y</sup>, that our own earth in particular, instead of being the youngest of the material works of the Deity, (as it must be, if no older than the epoch of the Mosaic creation,) is very probably the oldest. That this was probably created first of all, and amidst the possible infinity of similar material productions, all alike the creations of the same God, but each in an order, and at a time, peculiar to itself, the rights of the firstborn, so to say, the πρωτοτόκια of creation itself, the prerogatives attached to that relation, if

<sup>x</sup> 2 Pet. iii. 8.

<sup>y</sup> Fasti, ii. 365 n.



any such there are, belong *de jure* and *de facto* to our own earth. And not only so, but that the *natural* measure of the existence of our own earth, from the moment of its creation to the present time, the first, the simplest, and the most invariable of the measures of duration by time, the instrumental means of which is the diurnal rotation of our own earth, the cycle of day and night, is, by appointment of the Creator himself, the *positive* measure of the duration of every other created existence of later date; and what is more, is the positive standard even of the unoriginated existence and the eternal duration of the Creator of all things himself, when he deigns to compare the continued existence of any even the oldest and most enduring of his creatures, with that of his own essence; the standard of measure to which even the ANCIENT of DAYS himself, in such a comparison and contrast, condescends to appeal <sup>z</sup>.

And here, we are naturally reminded, by the course and tenor of our observations themselves, of the very decisive confirmation of such conclusions as these, respecting the antiquity of our own planet, which we have thus deduced from the chronology of Scripture, by the discoveries of Geology<sup>a</sup>. I have said enough to convince the reader, that with respect to the past history of our earth, no inconsistency, no opposition, no contradiction, was ever to have been apprehended, between the testimony of Scripture and these discoveries—simply because Scripture goes no further back in the history of our planet than the Mosaic Hexaëmeron, and B. C. 4004—the field of geological discovery lies entirely beyond this epoch in its history of B. C. 4004. It was equally impossible *a priori* that the conclusions of geology respecting the antiquity of our earth should ever be at variance with its true place and time in the order of created existence, according to the chronology of Scripture—or that the largest inference of this kind which the scientific geologist might feel himself compelled to draw from the phenomena brought to light by his own researches into the composition and structure of our globe, could possibly exceed, or, to speak more truly, could even approach, within

<sup>z</sup> Cf. Gen. viii. 22 : 1s. xliii. 13 : Dan. vii. 9. 13. 22.

<sup>a</sup> Cf. Fasti, ii. 341.

appreciable limits, to the age which Scripture itself of its own accord would assign it.

The ante-Mosaic duration of the earth indeed is one thing, and its history, during that period, is another. The simple fact of its existence for a length of time, anterior to the Mosaic æra, which for aught *we* know to the contrary may have come within any conceivable distance of eternity itself, is plainly to be collected from Scripture: the history of that existence, which must have run parallel to it perpetually, has not been written out in Scripture, or only in what belongs to a single page of the whole, and that too merely as a fragmentary and isolated passage, detached from its context, and alluded to rather than explained. Geology also brings phenomena to light which reveal somewhat of this ante-Mosaic history of the earth, and in reference too to this one chapter of its contents; and it is in its mode of reading and construing, or filling up, these fragmentary passages in the past history of its proper subject, more than in its speculations about its antiquity, that modern science is in danger of being set at variance with Scripture.

Geology will come into collision with Scripture, if it treats the phenomena, brought to light by its own researches, howsoever analogous to what may be seen going on, in and upon the earth, at present, as any criteria of its proper state or constitution from the first—if, while compelled by the evidence of the fact to acknowledge an opposition and conflict of the effects produced, it fails to recognise an opposition and conflict of the principles which produced them—if it sees a distinction of agencies all through the past history of the earth, amounting to absolute antipathy and antagonism, yet does not perceive a difference of agents, equally opposed to each other—if it refers order and disorder, conservation and destruction, life and death, in the treatment of the same passive subject, to the same active agent—if it attempts to connect extinct forms and varieties of life, discoverable in this ante-Mosaic period of the history of the earth, by any process of natural succession, with living forms and varieties of the same kind at present. On such points as these, geology and physical science, while attempting to illustrate the past history of the earth from such data as their own

investigations have brought to light, have come into collision with Scripture; and until they are content to study these fragments of its antecedent history with the help of the light reflected upon them by the revelations of Scripture, they must continue to come into conflict with Scripture<sup>b</sup>.

SECTION IV.—*On the antiquity of Man, and of social existence, whether greater or less than the date of the Mosaic Creation. Testimony of the three Witnesses.*

i. The natural measures of time, at the assumed epoch of the Mosaic Creation, having all been disposed in a certain relation to each other, and all set out from that epoch, and in that state of relation *inter se*, each according to its proper law; then, the nature of that law and the mode of its operation in each instance ever after being known, the relations discoverable among them at any subsequent epoch of the decursus of all in common, the changes or modifications of the conditions of origination, introduced by the constant operation of their own laws, at any given point of time afterwards, must supply a test and criterion of the antiquity of the system, in which they were all originally combined in such a state *per se*, and in such relations *inter se*, which could be nothing less than as infallible as it was perpetual.

For example, if the mean tropical time and the mean Julian time of the present system of things were known or could be assumed to have set out at par, for any given meridian, on April 25, and the annual increment of mean Julian time on mean tropical in mean longitude from the first to have been  $27''\cdot499\,556\,8^c$ , then if it was discoverable from observation, or in any other way, that the actual mean longitude of April 25, A. D. 1801, for the same meridian, was  $44^\circ\,20'\,7''\cdot428$ , or any thing only slightly different from that—what would that be but an infallible indication that mean tropical time and mean Julian, as combined perpetually in the present system of things, could not have been going on more than 5804 years? for  $27''\cdot499\,556\,8 \times 5804 = 44^\circ\,20'\,7''\cdot427\,672\,7^d$

In like manner, mean tropical time and mean sidereal being known or assumed to have set out at par, for a given

<sup>b</sup> Appendix, note G.

<sup>c</sup> Introduction, p. xviii. Table x.

<sup>d</sup> Cf. Origg. Kal. Ital. Prelim. Address, cvii.

meridian, from the conjunction of the sun in  $0^{\circ} 0' 0''$  of the sphere, with the arc of the sphere connecting the two stars Beta and Zeta Tauri, and the annual rate of the precession of the fixed stars in mean longitude, being assumed at  $50''\cdot069541$ , from the first<sup>e</sup>, then, if it was discoverable in any way that the mean longitude of this arc of connection, A. D. 1801, was  $80^{\circ} 43' 34''\cdot583$ , or any thing but slightly different<sup>f</sup>, what would that be but a demonstrative proof that mean annual tropical time, measured by the returns of the mean sun to  $0^{\circ} 0' 0''$  of the sphere, and mean sidereal, measured by the returns of the mean sun to the arc of conjunction in question, A. D. 1801, could not have been going on more than 5804 years? for  $50''\cdot069541 \times 5804 = 80^{\circ} 43' 34''\cdot582831$ .

In like manner, if the mean longitude of the solar apogee, for a certain meridian, B. C. 4004, at the mean vernal equinox was  $0^{\circ} 0' 0''$ , and the annual increment of the mean longitude of the apogee was to be assumed at  $61''\cdot729541$ <sup>g</sup>, then, if it was discoverable that the mean longitude of the apogee, at the mean vernal equinox, A. D. 1801, for the same meridian, was  $99^{\circ} 31' 18''\cdot255964$ <sup>h</sup>, what would that be but an infallible proof that mean tropical time and mean anomalistic, as combined together in the present system of things, must have been going on in conjunction, 5804 years, at the mean vernal equinox A. D. 1801? for  $61''\cdot729541 \times 5804 = 99^{\circ} 31' 18''\cdot255964$ .

In like manner, mean lunar time and mean Julian being supposed to have set out together April 29 at midnight, for the meridian of Jerusalem, B. C. 4004, and in such a proportion to each other that mean lunar time was liable to lose one period of 24 hours on mean Julian every 304 years; then if it was discoverable that mean lunar and mean Julian time were meeting together, and setting out in conjunction, on April 10 at midnight, for the same meridian, A. D. 1773, what would that be but a demonstrative proof that mean lunar and mean Julian time must have been going on together  $304 \times 19$  or 5776 years, April 10 at midnight, A. D. 1773, and that the system which had combined them both

<sup>e</sup> Introduction, page x. Table iii. Pt. i.

<sup>f</sup> Fasti, iii. 263.

<sup>g</sup> Introduction, 202.

<sup>h</sup> Ibid. 203.



originally in this proportion to each other, and was still combining them, was 5776 years old April 10 at midnight, A. D. 1773<sup>h</sup>?

In this manner, supposing the number and kinds of the mean natural measures of time, which enter the present system of things to be known, and the proper law of each, and the point of departure of each in the decursus of all in common, and the original relations of each to the rest, at that point of departure—to be known—(and there is nothing of that kind, assumed in this argument to have held good in each of these instances, April 25 B. C. 4004, which modern astronomy is not competent to put to the test, and to verify or to disprove, by its own calculations—) then the very changes in the relations of origination, discoverable among them at any point of the subsequent decursus of all in common, would supply a constant argument of the age of the system and scheme of things, which had combined them all, and in those relations, from the first; and an argument which would never cease to be applicable, would never grow old, would never lose its force, while the same system and scheme of things continued.

But with respect to the question of the antiquity of such a system, howsoever determined, as any test or criterion of that of Man also; it must be admitted that, so far as our own reason can discover, there is no necessary connection between the origin of such a course and succession of things as that which we call the course of nature, and the origin of society,—except as the effect of *appointment*,—except on the supposition that even this natural course and succession of things was not projected and ordered by its proper Author for its own sake, but for the sake of something else, intended from the first to make a part of it, though not necessarily connected with it.—and that something MAN. On that supposition, the argument of the antiquity of Man from the age of this system would be sound and good. The origin of such a system must have been the beginning of social existence also. Both must have come into being together, both must have gone on together, and one must be as old as the other perpetually—and if the antiquity of the system, under

<sup>h</sup> Appendix, note H.



the circumstances of the case, could not go farther back than the Mosaic Creation, neither could that of Man.

ii. Testimony of the Primitive Calendar.—With regard however to the bearing of the testimony of the Primitive Calendar on the present question; it is very important to observe that, whereas the natural measures of time could have had no connection with human and social existence, but what must have been *positive* in its origin, civil time, on the contrary, in the very supposition of its own existence presupposes that of society. Natural time is simply mundane time, and simply the measure of mundane existence, which may include that of man, or may not; civil time is essentially human and social time, time in connection with human history, time in subservience to the wants and uses of *Man*. The origin of natural time is that of a world; the origin of civil is that of society. Human time therefore must be as old as civil every where; and the antiquity of man must be as great every where as the use of the artificial and positive measures of time which are meant by the calendar<sup>i</sup>. And as even these measures themselves must be founded ultimately on the natural—(the civil day on the natural day, the civil month on the natural month, and the civil year on the natural year<sup>k</sup>—) it was to be expected *a priori* that, in a complex and scheme like this of the course of nature, in which human existence was destined from the first to make so prominent a part, the civil measures of time would be found to go as far back as the natural, and the origin of human time to have been simultaneous with that of mundane<sup>l</sup>.

iii. Primitive tradition.—With respect to the testimony of tradition—it must be confessed that the *prima facie* evidence of the opinions and belief of the nations of antiquity, especially those of the Egyptians, the Chaldeans, the Chinese, and the Hindoos, on this question of the relation of the age of man to that of his proper system of mundane time, still discoverable, is diametrically opposed to any genuine and authentic tradition on this point which could have been handed down from the first—and that each of these nations, and

<sup>i</sup> Fasti, i. 39. 543.

<sup>k</sup> Ibid. i. 38.

<sup>l</sup> Fasti, i. 38. 78–92: Introduction, 121–131.

many more besides, howsoever much they might differ in their respective accounts of the origin of their proper world, and of its earliest history, in other particulars, all alike agreed in assigning it an antiquity infinitely greater than that of the Mosaic Cosmogony.

But though the fact of such claims to an origin and an antiquity of this kind, as advanced by the principal nations of the old world, cannot be denied, the mere statement of such professions is sufficient to expose their fabulous character. It is enough to observe of them all, that they are late in making their appearance, even in these instances. It is not difficult to assign the motives in which, notwithstanding the previous existence among these nations themselves of a more truthful tradition on the same points, they might have originated—especially if we take into account the authority and influence of the ancient Egyptians, and the fact that the first example of this falsification both of postdiluvian tradition in general, and of their own history in particular, to serve an interested purpose, was set by the ancient Egyptians. With the knowledge of this fact beforehand, we require nothing but the natural tendency of imitation or rivalry to account for the same falsification, with the same object in view, any where else.

And yet one glimpse at least of the genuine tradition of primitive antiquity, on this point of the simultaneous origin of the human race along with that of the natural course of things, has come down to posterity. A tradition is met with among the ancient Arcadians, as early in their history as B. C. 1260 at least, that their own city of Lycosura and they themselves both came into existence on the first of the days which had light derived from the sun, in contradistinction to those which had light indeed but not derived from the sun<sup>m</sup>. And what is that but a plain description of the fourth day of the Mosaic Hexæmeron? only two days in anticipation of the true date of the origin of man, according to Scripture itself.

<sup>m</sup> Origg. Kal. Hell. iv. 577. 584. 585.

SECTION V.—*On the unity of origin of the Human race in all parts of the Earth. Testimony of the three Witnesses.*

i. Testimony of the Natural measures of Time.—On this question of the unity of the origin of the human species, at present, and at all former times, in all quarters of the earth, the natural measures of time, though the same in their origin, the same in their relations *inter se* and to every thing else, the same in their laws, and the same in their decursus, (with no difference at least except that of meridians,) every where, can supply no argument essentially or *a priori* distinct from that which might be derivable from the civil measures of time every where also, considered as originally founded upon, and ultimately resolvable into, the natural.

ii. Testimony of primitive tradition.—With respect to the testimony of tradition on this point,—a common relationship of the inhabitants of the earth at all times and every where, such as must be implied in an acknowledged community of descent in all of them alike from the same first parents, it must be admitted does not appear to have been recognised by any of the nations of antiquity except the Jews; and even among the Jews this fact, though not unknown in theory, seems to have had as little influence in practice, as if nothing had ever been known about it.

And yet almost every nation in ancient times professed to derive its origin from some *one* founder; and that is virtually an argument that, what was thus assumed in subsequent instances of each in particular, must once have been known or believed of all in general. Many too, and those especially who claimed the highest antiquity, pretended to derive their descent from some founder who owed his existence himself to no human parents, but came into being out of the ground, out of the trees, or out of the sea; and many examples of such a profession and belief are enumerated in a remarkable fragment, supposed to be one of Pindar's, which has lately been recovered<sup>n</sup>. And this is a still nearer approach to the acknowledgment of the great Scriptural truth, which only could have been handed down at first by a genuine tradition,

<sup>n</sup> Origg. Kal. Hell. ii. 317. iv. 664 n.

that even the first pair of mankind derived their origin from the ground.

But to come to the particular testimony of primitive tradition on this *one* point—i. I have had occasion to inquire into, and by a circumstantial induction of particular proofs to substantiate, the fact of a custom of primitive antiquity every where—That of the celebration of marriages, as a rule of public and private life, all in the course of the year, at *one* time, and that *one* time the first month of the primitive calendar°. And the fact of this custom being admitted, (as it must be, on the strength of its own evidence in so many instances,) it is impossible to account for the concurrence of all nations in so remarkable an usage of public and domestic life, from so early a period in their history down to so late an one, except on *one* supposition; viz. that it was originally known and remembered every where that marriage itself had been instituted by the Creator of man and his proper world, and the first marriage, (to which all the existing races and distinctions of men were still known and believed to have owed their being,) had been celebrated, in this first month of the first primitive year itself.

ii. I have adverted to the fact<sup>p</sup>, (and I hope to have a future opportunity of laying the proof of the fact before the reader,) that in the oldest mysteries among the Greeks, (and as we may add, the most *mysterious*,) those of Samothrace, the name of the first man, the name of the *πρωτάνθρωπος*, Adam, was preserved and perpetuated even lower down than the Christian æra. I hope too to have a similar opportunity of shewing that the first circumstantial particular in the history of the human race after the Fall, the murder of Abel by Cain his brother, was handed down and perpetuated also.

iii. It has been shewn<sup>q</sup> that the sum and substance of the history of the *other* of the *two* lines of descent from Adam, the line of Cain in contradistinction to that of Seth, down to the Flood, has been embodied and come down to posterity in the Rhodian fable of the Telchines; and that the Scriptural history of *both* these lines, for the latter part of the period between the Creation and the Flood, has been perpetuated in

° Orig. Kal. Hell. vi. 571-619.

<sup>p</sup> Ibid. iv. 367 ».

<sup>q</sup> Ibid. v. 269-280.



like manner in the Egyptian fable of the Νῆσος Ἀτλαντὶς, recorded in the Timæus and the Critias of Plato<sup>r</sup>.

iv. I have had occasion also to shew that the Kecrops of Attic tradition in particular, and the Deucalion of Hellenic tradition in general, as the links of connection between the antediluvian and the postdiluvian world of the Greeks, and the patriarch Noah, were the same<sup>s</sup>.

v. It has also been shewn<sup>t</sup> that the Heliadæ of Rhodian mythology, the *seven* sons of Helius and Rhodus, (the two principles in the Cosmogonic Duad of Rhodes,) the founders of the postdiluvian race of the possessors of the island, and the *seven* sons of Japheth, among whom Scripture includes the ancestors of the Greeks, were very probably the same.

vi. It has also been shewn<sup>v</sup> that the division of the whole earth, according to the Egyptians, into 72 regions, was probably founded on the division of the children of Noah, by whom the whole earth was known and believed to have been ultimately peopled, according to the apparent testimony of Scripture itself, and certainly to postdiluvian tradition, into 72 Families<sup>x</sup>.

iii. Testimony of the Primitive Calendar.—On this question however of the oneness of origin of the human race, at all times, and in all quarters of the earth, the most important and most decisive testimony, next to that of Scripture, to which we could appeal, is that of the Primitive Calendar.

To adduce this testimony in detail, and to substantiate it, as often as may be necessary, by the proper proofs of its truth, is the professed object of the *Fasti Temporis Catholici* and of the *Origines Kalendarie*, from the first. The propositions maintained in this work, as I have often had occasion to explain, are three at least.

i. That the measures of time of our own system of things, both the Natural and the Civil, took their rise in the Heptæmeron of Scripture, between April 25 at midn. and May 2 at midn. B. C. 4004.

ii. That the first form of the civil year among mankind

<sup>r</sup> Origg. Kal. Hell. iv. 104–111.  
280–284 n.

<sup>v</sup> Fasti, ii. 556.

<sup>s</sup> Ibid. iv. 125, 126. v. 744.

<sup>t</sup> Ibid. v.

<sup>x</sup> Cf. my Exposition of the Parables, Vol. v. Part ii. 144–151: Dissertations on the Principles and Arrangement of an Harmony of the Gospels, ii. 93 n.



was every where that of the equable solar year, of 365 days and nights; and this equable solar year was every where that which is represented and exhibited in the Tables of the *Fasti* from the first.

iii. That every form of the civil year different from this, which is still in existence, or was so formerly, in any part of the world, was derived from it, and, being traced historically back to its origin, is found to have been identical with it.

The process of proof however, by which only three such propositions as these admitted of being demonstrated, from the nature of the case, being that of the *INDUCTIVE SYLLOGISM*; I have been compelled to confine myself to a limited portion of this proof at a time. And three parts of the argument having thus been successively treated of in detail, the particulars of the Induction, as far as it has yet proceeded, may be summarily stated as follows.

i. The history of this one Primitive Type of the civil calendar among the ancient Egyptians, Chinese, and Hindoos, (and especially among the ancient Egyptians,) has been investigated and substantiated in the first Part, the *Fasti Temporis Catholici*, properly so called, from B. C. 4004 to more than a thousand years lower than the Christian æra.

ii. The history of the same primitive calendar, among the inhabitants of ancient Italy, from the first Nundinal correction, directly derived from it, B. C. 1340, to the Julian correction B. C. 46 and A. D. 225, has been traced and substantiated in the second Part, the *Origines Kalendarie Italicæ*.

iii. The history of the same primitive calendar, and of its various corrections or modifications, among the ancient Greeks, before and after the legislation of Solon, (from B. C. 1342 to the second or third century of the Christian æra,) has been traced and substantiated in the third Part, the *Origines Kalendarie Hellenicæ*.

The premises of the Induction, which have still to be adduced in order to the confirmation of our General Inference from them by as many more proofs of the fact in particular instances, as I propose to comprehend in the fourth and last Part, may probably be found to be supplied by the history of the following calendars: The Phrygian Correction of Midas—The Samothracian Corrections—The Correction of Dar-

danus—The Thracian Correction of Orpheus—The Lydian Correction—The Cyprian Corrections, (the Calendar of Paphus, the Calendar of Amathus, the Calendar of Salamis,)—The Syrian Corrections, (the Calendar of Byblus, the Calendar of Heliopolis, the Calendar of Sidon, the Calendar of Tyre, the Calendar of Gaza, the Calendar of Ascalon, the Calendar of Syria Proper, the Calendar of Emesus, the Calendar of Damascus, the Calendar of Arca Cæsarea, the Calendar of Batnæ, the Calendar of Amida, the Calendar of Hieropolis, the Calendar of Palmyra, the Calendar of Seleucia on the Tigris,)—The Assyrian Correction of Semiramis—The Median Correction—The Babylonian Correction—The Bactrian Correction of Zoroaster—The Persian Correction of Gjemschid, (including the Correction of Yezdejerd, and that of the Sultan Gelalo'ddin,)—The Armenian Correction—The Cappadocian Correction—The Punic or Carthaginian Calendar—The Numidian Calendar—The Arabian Corrections, (including the Calendar of Hejra,)—The Bithynian Correction—The Calendars and Corrections of the North of Europe, (the ancient British, Gallic, Anglo-Saxon, Danish, Swedish, Norwegian, and Icelandic, the ancient British Paschal Cycle,)—The ancient Ethiopic and modern Abyssinian Calendar—The Calendars of Spanish America, (the Toltec, the Aztec, &c.)

It will thus appear, as the result of the most general and comprehensive review of the history of civil time every where, which could be instituted at present, that whatsoever the difference of country or climate, whatsoever the difference of complexion or colour, whatsoever the difference of speech or language, whatsoever the distinctions of civilization and refinement, of manners and customs, of moral or intellectual characters or qualifications, in different quarters, and among different nations, on the Globe at present, one and the same measure of time for social purposes, one and the same Calendar at least, and that Calendar altogether the same with the equable solar Calendar of the Fasti, either always was, and still is, in existence among mankind every where both in Europe, and Asia, and Africa, and America; or if it has ceased to exist itself, has been the source of every other, which has been substituted for it in particular instances, and

is at this day in existence in the same countries and among the same nations<sup>y</sup>. It appears too, as the result of the same survey, that, as no calendar of this kind, as ultimately resolvable into the prototype of all in common, represented in the *Fasti* perpetually, traced back to its origin, can stop short of the epoch of that,—the Mosaic *Hexaëmeron*,—so none can pass beyond it, unless that does too; and therefore, as matter of fact, the proper epoch of civil time among all nations under the sun, traced back to its original sources, can neither fall short of, nor yet pass beyond, the first day of the Mosaic *Hexaëmeron*.

Such is the state of the case into which, upon this particular question of the unity or the diversity of the origin of mankind, as reducible to any such test as this of the particular form of civil time which must have been in use among them perpetually, we are first of all bound to inquire; and the fact being admitted, (as it must be, on the strength of its own evidence,) the explanation of the fact is as easy as the certainty of the fact is unquestionable, if we admit the simple Scriptural account of the derivation of all the inhabitants of the earth, (whether past or present,) from one pair, who came into being along with this primitive measure of Civil time itself, who used it themselves for all the purposes of social life, whose children received it from them, and used it also after them, and in the course of time carried it with them into all parts of the earth. On the other hand, if we reject this account of the simultaneous origin of human society, and of this primitive civil calendar, in one particular quarter of the earth—from which it was diffused by the diffusion of society itself over the rest of the earth; the fact of the actual existence of a form of the civil calendar, not merely analogous to, but absolutely identical with, this, in all parts of the earth, and among all nations, and at all times, as far as its history can be traced at present, will not be more certain, than the explanation of the fact, upon any rational and probable principle, will be difficult, not to say impossible. For the calendar every where discoverable being still the very same which took its rise on the first of the pri-

<sup>y</sup> Cf. *Fasti*, i. 542 sqq., 687 sqq. Introduction to the *Tables*, &c. 44, 45.

mitive Thoth, *Æra cyclica* 1, April 25, B. C. 4004; if it was not inherited every where by those who are using it every where still, from the same first parents, what will follow from that hypothesis, but that, instead of one pair of mankind, who came into existence along with this calendar, at the time in question, in one locality of the surface of the earth, as many distinct pairs as there are distinctions of races and nations at present must have come into existence at once, in as many distinct regions and countries, yet each at the same point of time, along with the same civil calendar,—the epoch of the Mosaic Creation?

Closely allied to this argument of the unity of origin of all mankind from the unity of the calendar of all mankind, is that which may be derived from the unity of the rule of the Noctidiurnal cycle also,—originally at least. It has been shewn in the *Fasti*<sup>z</sup>, by a minute induction of the particular proofs of the fact, beginning with the rule of Scripture, that the primitive rule every where was to reckon the Noctidiurnal cycle from sunset to sunset. And it has also been shewn<sup>a</sup>, that while a traditionary origin of such a rule in both Hemispheres, as inherited by the descendants of the same first parents every where in the shape of a positive institution, is competent to account for and explain the use of such a rule in both at once—nothing else can be. A simultaneous origin of such a rule in both Hemispheres at once, would have been impossible, because in the nature of things the point of evening in one must have been that of morning in the other<sup>b</sup>.

SECTION VI.—*On the Mosaic Hexaëmeron, whether a succession of days of the ordinary length, or a succession of periods of indefinite extent. Testimony of the three Witnesses.*

i. Testimony of the measures of time, both the natural and the civil.

It may be safely assumed that no controversy could ever have been raised on this question in particular, had it always been known to Christian divines and chronologers, that in

<sup>z</sup> *Fasti*, i. 143–218

<sup>a</sup> *Ibid.* 221. 230

<sup>b</sup> *Ibid.* 227.



one year of the *Æra* before Christ, and that *one*, designated by the chronology of Scripture itself as the first year of mundane time, B. C. 4004, and in one week of this year, April 25—May 2, all the measures of time, both the natural and the civil, which enter *de facto* into the course of things, as it is going on at present and always has done, were meeting together and ready to set out together, each in its place and order as a constituent part of the system, and each according to its proper law, just as all and singular of them, according to the plain and obvious construction of the testimony of Scripture, must have done in the week of the *Hexaëmeron*—noctidiurnal time in the simple cycle of day and night, the simple period of 24 hours,—hebdomadal time in the cycle of seven such periods, civil annual time in the cycle of 365,—natural annual tropical time from the point of the mean vernal equinox, natural annual sidereal from the intersection of the ecliptic and the arc of conjunction of Beta and Zeta Tauri, natural annual anomalistic from the apogee of the axis major of the solar orbit—all for the same meridian, all at the point of midnight, all on the first day of the week, and all under their proper Julian style, derived from that of this day, April 25—And lastly, mean lunar time, as reckoned from the line of conjunction of the centre of the sun, and the centre of the moon, and the centre of the earth, from the point of midnight for the same meridian, not indeed on the first day of the same week as the rest, but on the day designated by Scripture itself as that of the origin of mundane lunar time, the fifth day of the same week, of which the rest met on the first, and under the proper Julian style of this day, April 29, regularly derived from that of the first, April 25.

These facts must be denied, and not only denied but disproved, if the inference from them, that April 26 at midn. must have been the *second* day, and May 1 at midn. must have been the *seventh*, of the proper noctidiurnal, the proper hebdomadal, the proper annual time, (both the natural and the civil,) of that system of all in common of which April 25 was the first,—or that April 30 at midn. must have been the *second* day, and May 1 at midn. the *third*, of the proper



lunar time of that system, of which April 29 was the *first*—can be denied also.

It makes no difference to a regular succession of any kind whether it is traced from a given point of its decursus backwards, or from a given point of its decursus forwards. With respect to the beginning or the ending of the succession, or to the order of the parts between, the result is the same in either case. But the natural course of time is forwards perpetually; and the representation of mundane time in all its elements, in the Tables of the Fasti, is conformed to this natural law of the succession itself. I will beg leave therefore briefly to trace all and each of the parts of this great complex and scheme of things, from the week of its origination, according to Scripture and according to the Tables of the Fasti, down to the present day.

Beginning then with this week, as both the week of the Mosaic Heptaëmeron, and as made up of seven ordinary days, and with the first day of this week under the proper Julian style of April 25 at midnight B. C. 4004, i. the mean noctidiurnal time of the system, measured (with one exception only, hereafter to be noticed) by the period of 24 hours perpetually, and the mean hebdomadal time, measured (with the same exception only) by seven such periods of 24 hours, or one period of 168 hours, perpetually, is brought down in the Tables of the Fasti for 6004 years; and, as so brought down, may be compared, at any point of its decursus meanwhile, with the actual course of the same two things going on at the time, known from testimony, or (as the test and touchstone of the truth of the whole from first to last,) with the actual course of both, going on before our eyes at present—with the actual noctidiurnal, the actual hebdomadal, cycle of our own day,—and it will be found to be nowhere contradicted, either by testimony in times past, or by the evidence of our senses at present <sup>c</sup>.

ii. The mean annual tropical time of the system is traced in the Tables from the first mean vernal equinox, for the proper meridian, to the 6004th; and at any intermediate

<sup>c</sup> Fasti, i. 384–541. cf. Origg. Kal. Hell. Prolegomena, lix–lxvi.

point between these extremes calculation is competent to test these equinoxes of the Tables by the same phenomena, for the same meridian, at the same points of time, as determinable from the best modern tables—for instance, those of Delambre. Yet it will never be found in any instance of this kind that the mean equinoctial time of the *Fasti* and that of the tables of Delambre differ more than in proportion to the difference of the standard of mean annual tropical time assumed in each respectively, and to the cumulative amount of that difference from B. C. 4004 to the epochs in question<sup>d</sup>.

iii. The mean annual sidereal time of the system is exhibited in the Tables, in a compendious form, from the first conjunction of the sun, for the proper meridian, with Beta and Zeta Tauri, April 25 at midn. B. C. 4004, to the 6049th, June 2 A. D. 2045, or the 6105th, June 2 A. D. 2101<sup>e</sup>, and it is in the power of modern astronomy to test these sidereal ingresses also at any assumed epoch between these extremes; but it will not discover any difference between its own calculations and the indications of our Tables, beyond the limits just pointed out in the parallel case of the mean equinoctial time of the *Fasti*, and that of the modern Tables.

iv. The mean annual anomalistic time of the system indeed has not been exhibited in the Tables, either *in annis expansis*, like the mean annual tropical, or in periods of a certain kind, like mean annual sidereal; but that its epoch has been rightly, or at least (considering the imperfection of even the modern formulæ in this instance, carried back so far) allowably, assumed as 0° 0' 0" B. C. 4004, has been shewn<sup>f</sup>; and that the phenomena of the actual course and succession of mean anomalistic time at the present day are entirely in accordance with this assumption of its having set out originally April 25 B. C. 4004, at 0° 0' 0", has also been shewn<sup>g</sup>.

v. The mean menstrual time of the system is traced in the Tables, in the Period of 304 years, from the first mean lunar conjunction, for the proper meridian, April 29 at midn. B. C. 4004, to the 71,441st, April 10 at midn. A. D. 1773. And

<sup>d</sup> *Fasti*, iv. 506–519. cf. *Orig. Kal. Ital. Preliminary Add.* cxii–cxl.

<sup>e</sup> *Orig. Kal. Hell. i. Proleg.* cxlvi–cxlviii. <sup>f</sup> *Fasti*, ii. 130. *Orig. Kal. Ital. Preliminary Add.* cxi. cxii.

<sup>g</sup> *Fasti*, iv. 509. *Introd.* 203, 204.

among these 71,440 mean lunar months it is impossible to designate any *one*, either in time past or at present, the date of which according to the Tables will be found to differ from the actual date, whether as known from testimony, or as determined by calculation, heretofore, or as assignable from observation of the heavens at present, except as the *mean* date of such a phenomenon is liable at all times to differ from the true, or as even the mean date, cyclically reckoned, is liable at stated times to differ from the natural date of the same kind <sup>h</sup>.

vi. The equable Cyclical time of the system is exhibited in the Tables <sup>i</sup> from the first day of the Primitive Thoth, Æra Cyc. 1, April 25 B. C. 4004 at midn. to the first of the Primitive Thoth, Æra Cyc. 6008, May 1 A. D. 2000 at midn. a period of 6007 equable years, 6003 natural or Julian. I say the equable *Cyclical*, because another form of equable time, the equable Nabonassarian, is incorporated in the Tables also<sup>i</sup>. But the true reckoning of mundane time in terms of equable is kept in terms of equable Cyclical. And of this in particular it may be observed that, among all the constituent parts of the great complex of mundane time from the first, of none is the proper reckoning more easily or more certainly traceable, either forwards or backwards, and in the decursus of none have so many points been fixed by testimony *ab extra*. Every calendar of antiquity, the origin of which has been, or may be, historically determined in this very work of the Fasti and Origines, has served or will serve a purpose of that kind : and one such epoch in the downward course of this species of time in particular once determined, nothing is easier than to ascend from that, both in the noctidiurnal and in the hebdomadal style of equable annual time, to the week of the Hexaëmeron itself. It is but a process of counting, as I have elsewhere observed <sup>k</sup>. For as no year of this kind ever contained more or fewer than 365 actual cycles of day and night, nor consequently more or fewer than 52 cycles of seven such days and nights complete, and one day

<sup>h</sup> Cf. Origg. Kal. Ital. Preliminary Add. xc-xciii. Introduction to the Tables, pag. liv. Table xxii. Part xix.

<sup>i</sup> Fasti, i. 610-673. Origg. Kal. Ital. Preliminary Address, xlv-l. Kal. Hell. Proleg. clvi-clxix.

<sup>k</sup> Preliminary Address, xc. cf. Introduction to the Tables, 132-137.

and night over and above of a 53rd, it is manifest that equable annual time in coming downwards must advance one term in the order of hebdomadal, and in going back must recede one term in the order of hebdomadal, perpetually. Nothing then is more easy than from a given hebdomadal date in any subsequent year of this denomination to ascend to the very first hebdomadal date in the first equable year itself—and that will never be found to be anything but the *feria prima*, the proper hebdomadal character of Thoth 1, Æra Cyc. 1 April 25 B. C. 4004, reckoned according to the Julian rule from midnight<sup>1</sup>.

viithly and lastly, along with and parallel to each of these other constituent parts of the system of mundane time, the Tables exhibit the proper Julian time also, in the proper cycle of leap-year, and in the proper solar cycle, or cycle of 28 years, of the system, through the Julian period sometimes of 112, sometimes of 140, and in two instances of 56 years, in length—first, as the Proleptical Julian time, the necessary, but still the conventional and positive, representative of the natural annual, treated *pro tempore* as Julian, from B. C. 4004 to A. D. 225; secondly, both as the actual Julian time of the system *per se*, in the form of simple Julian, and as still the conventional representative of the natural annual, in the form of Gregorian Julian, from A. D. 225 to the end of the Tables. And though this is confessedly the most intricate part of the system of the Tables, the explanations which have been given of it<sup>m</sup> are competent, I hope, to render it intelligible; and once understood, it will be seen to be founded in the reason of things. Taken with these explanations, the Julian time of the existing system may be traced, in that of the Tables, either forwards, from the epoch of origination, April 25 at midn. B. C. 4004, to the present day, or backwards, from the present day to the epoch of origination, with as much facility and as much certainty as the equable time itself, fulfilling too all the while an use and purpose, relatively to the rest, which none could fulfil but itself; that, viz. of serving as the standard of reference of all the rest—that of supplying the *style* or nomenclature of all the rest—

<sup>1</sup> Preliminary Add. lxxxvii–xc, Introduction, 132–137.  
 Hell. i. i–lviii: lxviii–clv.

<sup>m</sup> Origg. Kal.



that of keeping the account of mundane time in the reckoning of each of the rest, in a language borrowed from itself, but common alike to all, and intelligible alike of all, the rest.

ii. Testimony of Primitive Tradition.—With respect to the testimony of tradition, and its bearing on this question of the true nature and construction of the Mosaic Heptaëmeron, the phenomenon, to which I would first of all direct the attention of the reader, is *this*; that, in tracing the succession of primitive equable solar, and primitive equable lunar, time in conjunction from our assumed epoch of origination of both down to the latest times, we discover a remarkable distinction; viz. that the recognised epoch of equable solar time from the first must have been not the first but the 8th of Thoth, and the recognised epoch of equable lunar time from the first must have been not the Luna 1<sup>a</sup> but the Luna 4<sup>a</sup>, dated from the change, the Luna 3<sup>a</sup>, dated from the phasis <sup>n</sup>.

The fact of this distinction is established by the decursus of Primitive civil solar and lunar time from this epoch of origination, the Heptaëmeron of Scripture, in the cycle of 25 years, combining both perpetually, down to the rise of the first of the cycles of the same kind, which are more properly to be called the Apis cycles, because they are connected historically with the worship of the Apis among the Egyptians. The first cycle of this latter kind is found to have taken its rise in the *ninth* lunar year of the cxxiind cycle of the former kind, and in the *fourth* month of that year, and on the regular epoch of the *fourth* month in the *ninth* year of that cycle, the 11th of Thoth, as regularly derived also from the regular epoch of the *first* month in the first year of the same cycle, Thoth 8. The inference from this fact is obvious; viz. That, if the regular solar date of the *fourth* month in the *ninth* year of this Primitive succession of the cycle of 25 years was Thoth 11, the regular solar date of the *first* month in the *first* year must have been Thoth 8<sup>o</sup>.

And this discovery of the true solar date of the succession of equable solar and equable lunar time, in the cycle of 25

<sup>n</sup> Fasti, iii. 354 *n* : iv. 368 sqq. Preliminary Address, xciii-xcviii.  
Fasti, iv. 384.

<sup>o</sup> See



years, from the first, thus made from the ascertained relation of the first of the historical cycles of the same kind, the first of the Apis cycles, to the corresponding cycle of the original succession for the time being, is further confirmed, i. By one of the styles of the Egyptian Thoth, in after-times, and one of the most remarkable, and in the opinion of the Egyptologists, as they call themselves, of the present day, the most difficult to be explained of all; that, viz. of the Lord of Esh-moun, the Lord of Eight, the Lord of the Octave. The meaning of this title, as every one must allow, becomes obviously easy of explanation, as soon as it is understood that this Thoth himself of after-times was the impersonation of the calendar, the presiding and informing principle of the calendar personified, and that the calendar itself from the first bore date on the 8th of the month *p*. We shall meet, I hope, in a future calendar with another instance of the application of the same title for the same or a similar reason, to the same kind of Principle there too.

ii. By a similar discovery among the ancient Greeks, from which it appears that, among them too, from as far back as B.C. 1250, 1222, or 1117, equable solar time must have been reckoned to bear date from the 7th or the 8th of the month more properly than from the first *q*.

And with regard to the similar distinction in the epoch of Primitive equable lunar time,—That the Primitive reckoning of the civil lunar month must have borne date from some lunar term later than the conjunction at least, may be inferred, ist. from the oldest word in the Hebrew language for the civil lunar month itself, which is *iree*; and from the proper meaning of this word in its own language, that of the natural lunar month, as so called from the moon already illuminated more or less, already in possession of two or three days light at least. ii. From the oldest term for the civil lunar month in the Greek also, which is *μῆς* not *μήν*; and from the sense of *μῆς* too in that language, analogous to that of *iree* in Hebrew *r*.

And that the particular phasis, supposed to have been thus

*p* Fasti, iv. 376.

*q* Kal. Hell. iv. 677 *n*: v. 376. 706 *n*.

*r* Fasti, i. 60 *n*: 259: ii. 213 *n*. Preliminary Address, xcvii. xcvi. Orig. Kal. Hell. iv. 366.

characteristic of the primitive or primary Lunar month, must have been that of the Luna 4<sup>a</sup>, may be inferred, 1st. from the traditionary reverence of that Lunar term in particular among the Egyptians, as known from testimony, and older than their Apis calendar itself<sup>s</sup>. 2ndly, from the recognition among them, nevertheless, of three other lunar terms, esteemed sacred as well as the Luna 1<sup>a</sup>, though in an inferior degree to that, the Luna 1<sup>a</sup>, the Luna 2<sup>a</sup>, and the Luna 3<sup>a</sup><sup>t</sup>. For the epochal term of the entire decursus of equable lunar time in the Primitive calendar, especially among the Egyptians, having been the Luna 4<sup>a</sup>; these three terms, the Luna 1<sup>a</sup>, the Luna 2<sup>a</sup>, and the Luna 3<sup>a</sup>, in relation to that must have been so many ante-epochal terms, each of them in its proper order of time and place necessary even to this epochal term itself, and each of them consequently deriving from that necessity a share in the sacredness of character of that epochal term itself.

Now these facts also being admitted, every unprejudiced person must see that of all the explanations of them which might be imagined, none is so natural, so obvious, so likely *a priori* to be the true one, as *this*, viz. That it must have been known to the antediluvian world from the first, and must have been for some time at least remembered in the postdiluvian, that the work of creation at the beginning of things had been spread *de facto* over six days; and that, though equable noctidiurnal and annual solar time had come into existence on the *first* of these days, and equable noctidiurnal and lunar time on the *fifth*, Human time, as bearing date from the Creation of Man, had done so only on the *sixth*. And *this* having been the last day *de facto* of the work of Creation, and the next day that of the institution of the sabbath, and hebdomadal time having come to be mixed, by virtue of that institution, with noctidiurnal, menstrual, and annual, only on the very day after the earliest possible date of the origin of human existence, it could not have appeared consistent with the reason of things to begin the reckoning of hebdomadal time, as the proper measure from this time forward of human existence, in the cycle of

<sup>s</sup> Fasti, ii. 523; Kal. Hell. iii. 541.

<sup>t</sup> Fasti, iii. 354 *u.*: iv. 369 *sqq.*

day and night, from an earlier term than the *feria prima* of the first actual week, Thoth 8, reckoned from the first day of the week of Creation, Thoth 1. Such is probably the true account of the fixation of the epoch of the equable solar calendar of the beginning to the 8th of Thoth instead of the 1st, which bestowed on the Impersonation of this Calendar in after-times his characteristic title of the Lord of *eight* or the *eighth*. And this fixation of the solar epoch of the primitive calendar to the 8th of the solar month would necessarily involve that of the lunar epoch of the same calendar to the 4th of the lunar month, dated from the change, Thoth 5, or to the 3rd, dated from the phasis, Thoth 6; in either case to the same solar term, Thoth 8.

SECTION VII.—*On the admissibility or non-admissibility of an interval of indefinite length in any part of the first chapter of Genesis. Testimony of the three Witnesses.*

The next question, which appears to present itself for consideration, at this stage of our inquiries, is *this*; of the admissibility or inadmissibility of an indefinite interval in any part of the Mosaic Cosmogony.

And on this question too, if we must confine ourselves strictly to the testimony of matters of fact, and to such testimony of that kind as we have hitherto been adducing and explaining, the conclusions just established, respecting the true nature and construction of the Mosaic Heptaëmeron in particular, must render it demonstratively certain that there can be no room for an interval of this kind in the Heptaëmeron itself; i. e. from Gen. i. 3, where the first day of this week must be supposed to begin, to Gen. ii. 3, where the seventh may be assumed to end.

It follows that, if such an hypothesis is admissible in any part of this first chapter, it must be between i. 1 and 2, or between i. 2 and 3. And as to these two alternatives—To assume the interposition of an indefinite interval between i. 2, which describes the condition of the earth up to the eve of the Heptaëmeron itself, and i. 3, which begins the account of the proper work of the first day of that week, would be to suppose this state of the earth, (the state, which Scripture itself calls that of *Tour and Bour*—the state of *No World*

in contradistinction to that of a WORLD, superinduced upon it by the six-day work of Creation itself,) a state of indefinite length—continuing indeed in one direction no longer than the eve of the Hexaëmeron, yet going back in the opposite direction to an indefinite extent—an hypothesis of the previous state of its being which might be admitted to be *possible*, but could not, in any point of view, be considered *probable*.

It follows then that, if such an interval is admissible anywhere in the details of this chapter, it must be between the first and second verses, Gen. i. 1 and 2. But as to the fact of such an interval even there; it must be left to every one to decide on the question of its probability or its improbability, its truth or its falsehood, to the best of his judgment, for himself. I freely confess that, when discussing this very question, in the *Fasti Catholici*<sup>v</sup>, it did not appear to me at that time that there was any necessity for the hypothesis of an undefined interval in any part of the Mosaic account of the cosmogony. Further consideration however has modified my former convictions on this point, and induced me to come to the conclusion that there probably is, after all, an interval of indefinite extent, passed over in silence, but not the less real on that account, between these two verses: and I shall now proceed briefly to state the reasons on which this change of opinion is founded.

i. If the reference to “the beginning,” in the first words of the chapter, is to be restricted to “the beginning” in the sense of the *first coming into existence* of that system and complex of things, the details of which follow in the sequel of the chapter; then there is no account in the Cosmogony of Scripture itself of that which on every principle must be considered “the beginning,” most properly so called—the first production of the *ύλη* or matter of things, and especially the *ύλη* or substance of every created world, the materials of which, as Scripture itself teaches<sup>x</sup>, were formed first of all out of nothing. No one could maintain that the Cosmogony which follows, as soon as it descends into particulars, is the account of such a formation of a world, *ἐξ οὐκ ὄντων*, and not *ἐκ προϋπαρχόντων*. No one could deny that, according to this

<sup>v</sup> *Fasti*, ii. 337.

<sup>x</sup> *Fasti*, ii. 322.



account, the material mass of the earth was previously in being, before the work of *this* Cosmogony had yet begun; nor that both the matter and mass of the sun, and the matter and mass of the moon, had a real existence respectively, whether a visible one or not, prior to the fourth day of *this* Cosmogony, specially restricted to *them* as the work of this fourth day might be. It may therefore be confidently affirmed, that if the first words of this cosmogony, “In the beginning,” do not go back to the very first act of creative energy, it contains no account of that which, to our apprehension, as enlightened and informed on this point by Scripture itself, must always appear to be most properly, “the beginning”—the very first act in the process of creation, the production of the matter of the universe, before the formation of any thing out of the materials so produced.

ii. If this simple historical statement, “In the beginning God created the heavens and the earth,” premised as it is even to the account of our own Cosmogony, does in reality go back to the very beginning of all Creation, to the very first energy of creative Omnipotence,—it is sufficiently general and comprehensive to take in, not only the original production of the materials of our own world, but that of the matter of the whole visible universe besides; and that too, whether brought into being simultaneously, as the effect of a simultaneous energy, operating in innumerable instances through the infinity of space at once, or as successively produced in any order which might be considered probable; and it is sufficiently precise and definite to be understood as affirming in all these instances this one great truth, that, innumerable as these worlds might be in themselves, and differently as they might be constituted one in comparison of another, the matter or *ὕλη* of all of them alike was produced by their common Creator out of nothing.

iii. And though it must necessarily follow from this construction, and this reference, of the words in question, that the history of our own earth, thus supposed to have begun so long before, is taken up and continued in the next verse only on the eve of the Mosaic Hexaëmeron itself, yet thus to join together distinct, but notwithstanding consecutive, events in the history of the same subject,—thus to affirm consequen-



tiality of the particulars of such an history without affirming continuity,—is one of the idioms of inspired history in contradistinction to uninspired—founded, no doubt, at bottom on the most characteristic difference between them, viz. that, to inspired history, though not to uninspired, the present and the future in one and the same series of cause and effect, of antecedent and consequent, are virtually the same, and the most distant links in a chain of this kind are as close to each other as the nearest.

In illustration of this idiom, it may suffice at present to refer to one or two instances of it, which occur in Scripture, the same in principle with that which I am supposing in this particular case, though<sup>y</sup> incomparably inferior to it in degree. As for example, i. Dan. ix. 25, 26. “Know therefore and understand that . . . unto the Messiah the Prince (Leader) *shall be* seven weeks and threescore and two weeks . . . and after (the) threescore and two weeks shall Messiah be cut off.” Here, *prima facie*, it appears to be predicted that the cutting off of Messiah (the Leader) would be directly continuous on the end of the 69 weeks; and yet it is plainly implied by the rest of the prophecy, and it is clearly demonstrated by the testimony of the event, that, between this first appearance of Messiah in this capacity of Leader, and this cutting off of the same Messiah the Leader by his death, an *half-week*, a period of three years and six months at least, devoted to his personal ministry and to that of his predecessor the Baptist, was to intervene<sup>y</sup>.

ii. What is still more to the point in the present instance, Dan v. 30, 31. “In that night was Belshazzar, the king of the Chaldeans, slain; and Darius the Mede took the kingdom.” Here the *prima facie* meaning seems to be, that Darius succeeded to the kingdom the very night in which Belshazzar was slain; and there is probably scarcely a commentator on the book of Daniel, ancient or modern, who has not put that construction upon it. And yet it is capable of proof, both from Dan. x. 13, xi. 1, and from the Canon of Kings, and from the true order and names of the kings of Babylon from Nebuchadnezzar downwards, that between

<sup>y</sup> Cf. my Dissertations on the Principles, &c. of an Harmony, vol. iv. 372-381 sqq.

those two events there was in reality an interval of 21 years. But with the knowledge of the idiom of inspired history, which I am attempting to illustrate, it is sufficient to account for the juxtaposition of the later with the earlier event of this kind, that they were in reality consecutive, though not continuous; that the later really happened at the very same time of the year, and almost under the very same circumstances, as the earlier<sup>z</sup>.

The state of the case then at this period of the history of our earth, and of every thing connected with it, denoted by Gen. i. 2, just on the eve of the Mosaic Hexaëmeron, is this; viz. That, even at that moment the earth itself was in being, revolving round its own centre, and revolving round the sun; and its satellite the moon was in being also, revolving round the earth; and the sun, the centre of attraction to both, was in being too. And even on the eve of the Mosaic Hexaëmeron, every thing was going on in these several respects, as it has gone on from the first day of the Hexaëmeron to this day, only in the *Dark*. The earth was destitute of light, destitute of an atmosphere, destitute of life; covered with water, and shrouded on all sides in darkness<sup>a</sup>.

And this being the actual state of the case just on the eve of the Mosaic Creation, the question which naturally occurs at this stage of the argument, is, How long before the beginning of the Mosaic Hexaëmeron must this state and condition of things be supposed to have been continuing? In answer to which, I observe, 1st, It has been demonstrated, and may now be assumed as an incontrovertible matter of fact, that the proper cycle of leap-year of the present system of things, traced back from any epoch of that cycle at the present day, whether March 1 at midnight or April 25 at midnight, will pass one year at least (whether it will necessarily pass more than one or not) beyond the epoch of the Mosaic Hexaëmeron itself.

ii. It will be seen by and by, that the last three years of this first proper cycle of the leap-year of the system were *de facto* the measure of the duration of the state of Paradise, the state of innocence, beginning with the Creation of Man,

<sup>z</sup> Appendix, note I.

<sup>a</sup> Fasti, ii. 55 sqq.

and ending with the Fall; and therefore, we may presume, were always intended to be so. It will also be seen that these last three years of the cycle, though necessarily the first three years of mundane existence, and the first three years of human existence, (as both dated from the Hexaëmeron,) are nevertheless not reckoned in Scripture to the account of the *Life* of the first man; which is therein dated not from the day of his Creation, but from the day of his Fall.

iii. From these distinctions, as matters of fact, it is an obvious inference, that this first cycle of the leap-year of the system must have been something *sui generis*, a cycle of that kind, which, for some reason or other, must stand midway between the decursus of Julian time, as measured or measurable perpetually by such a cycle before itself, and the decursus of Julian time, as similarly measured or measurable after itself; yet be equally isolated relatively to both. And this peculiarity of its nature and position perhaps could not be better expressed than by calling this first proper cycle of the true Julian time of the existing system of things, the last of a succession of that kind in the continued decursus of an æra, when the law of existence even of such a creature as Man was not yet the law of *Mortality*—the law of a finite existence, whether greater or less in itself, between the beginning of being by *Birth*, and the termination of being by *Death*; and calling the second such cycle the first of a succession of the same kind in the decursus of an æra, when the law of human existence was now the law of *Mortality*, the law of a finite interval, called *Life*, between the moment of birth and the moment of death; and therefore necessarily dated from the Fall of Man<sup>b</sup>.

iv. The actual system of things then, which came into being at the epoch of the Mosaic creation, and has continued in being ever since, having taken its rise in the *second* year of the *first* cycle of leap-year of the system, and on April 25 in this year, the state of things immediately prior to it, which Scripture calls *Tohu* and *Bohu*, must have come to an end on the same day: and it is an obvious inference from this coincidence, that, if the state of *Tohu* and *Bohu* came to

<sup>b</sup> Fasti, ii. 236–250. 267 *n*.

an end just on the eve of the *second* year of this cycle, it must have begun just at the ingress of the *first*; and if the *second* year began on April 25, the first must have begun on April 25 or 24 also.

v. The Noctidiurnal, the Hebdomadal, the Natural annual, and the Julian annual, time of the system, which enter the Tables of the *Fasti de facto* in the second year of this cycle B.C. 4004, Dom. Lett. C, at 0 h. 0 m. 21·6 sec. from midnight, for the proper meridian, April 25, the *feria prima*, set back, in the same relations to each other, to the first year of this cycle, B. C. 4005, Dom. Lett. D, must have been found entering the Tables at 18 h. 11 m. 31·2 sec. from midnight, for the same meridian, April 24 the *feria sexta*, by the Julian rule, April 24 the *feria septima ineunte*, by the primitive rule.

vi. And such being the state of the case at the ingress of this first proper cycle of leap-year of the proper Julian time of the present system of things, that just at this time, April 24 at 18 h. 11 m. 31·2 sec. from midnight on the *feria septima ineunte*, according to the primitive rule, the earth was arrived, or on the point of arriving, at the mean vernal equinox for the meridian of the ancient Jerusalem; let the place of the moon, at the same time and for the same meridian, be next inquired into. And this problem having been solved with all the exactness of which modern astronomy is capable, (for questions of this kind at least, which go so far back from the present day,) the result is found to be as followsc.

B. C. 4005.		h. m. s.			
Mean full moon,	April 24	17	1	40	m. t. Greenwich.
	April 24	19	22	27	m. t. Jerusalem.
True full moon,	April 24	19	59	27·456	m. t. Greenwich.
	April 24	22	20	14·456	m. t. Jerusalem.

That is, the moon also was at the full, for the meridian of Jerusalem, on this day, April 24 B. C. 4005, about 1 h. and 40 m. before the point of midnight. And that having been the case, the time of the year being that of the vernal equinox, and the length of the night equal to that of the day, and the sun being on the lower meridian and the moon on

c *Fasti*, iv. 640-642.



the upper, almost at the same moment, it cannot be considered improbable that as the actual state of things this year, B. C. 4005, and on this day, April 24, the *feria septima* of the hebdomadal cycle by the primitive rule *ineunte*, at 18 h. from midnight, the sun was setting in the west, and the moon was rising in the east, at the very same time, or nearly so.

vii. And this year, B. C. 4005, dated from April 24, having been the first year of the proper cycle of leap-year of the present system, and the year of *Tohu* and *Bohu*, as it has been shewn, having begun and ended with this year; it follows that, whatsoever the state of things in and upon the earth, denoted by *Tohu* and *Bohu*, while it lasted, it must have begun on this day, April 24 B. C. 4005, and at this time of this day, 18 hours from midnight. And one of the characters of this state, defined by Scripture itself, being the absence of light, and another, similarly defined, being the predominance of the element of water,—it is a necessary inference from both these facts, that this state of *Tohu* and *Bohu*, dated from April 24 at 18 h. B. C. 4005, must have been ushered in first by an instantaneous extinction of the light of the sun just descending below the horizon in the west, and simultaneously with it, because a necessary consequence of it, of that of the moon just ascending above the horizon in the east; and secondly, with a predominance of the watery element, equally instantaneous, in whatsoever manner brought about, whether by the instant precipitation of the atmosphere, with all the vapours before held in solution in it, or the instant bringing up of the sea on the dry land,—or by both at once.

viii. And here it is necessary to refer the reader to the explanation of 2 Pet. iii. 3-7, given in the first Part of this work<sup>d</sup>, and of the allusion, which occurs there, to an Earth, and an Heaven or Heavens, analogous to those of the present world, which had once existed, and had ceased to exist, before those of the present world, and to the instrumental means of their destruction, the element of water—and, through the analogy of this destruction of a former world, altogether the same in general with the present, by Water,

<sup>d</sup> *Past*, ii. 345.



to the inference, derivable from that fact, of the certainty of the future destruction of the present world also, as predicted by the word of God, in due time, by Fire.

It would be a great misapprehension of the true drift and meaning of these allusions, as I shewed, to understand them simply of the Deluge of Noah,—which was indeed the destruction of every kind of life upon the earth, but in no sense a destruction of the earth itself, a dissolution of the material texture of the earth,—much less a destruction of the heavens also, even in the idiomatic sense of that term in Scripture, whereby it is restricted to the atmosphere which surrounds the earth. This atmosphere was not dissolved by the deluge of Noah; but the earth, as the subject of the deluge of *Tohu* and *Bohu*, could have had no atmosphere, or must have lost its atmosphere. It recovered its atmosphere only on the second day of the same Hexaëmeron, which in its totality undid the work of that deluge in its totality also.

But if this allusion to a prior destruction of the same kind of earth and the same kind of heavens, as the present, and through the instrumentality of water, is not to be referred to the deluge of Noah, to what can it be referrible, in the history of the earth, earlier than the deluge of Noah, (and known, or capable of being known, even to the very scoffers and doubters addressed in this part of the Epistle,) except the deluge of *Tohu* and *Bohu*? or to what intervention *ab extra*, as the proper cause of such an effect on such a subject, but that which, just at the ingress of this year, as we have seen reason to conclude, stepped in, and reduced the earth, perhaps in an instant of time, to that state in which it was found still existing on the eve of the Mosaic Hexaëmeron itself?

ix. This state of things in the Ante-Mosaic Æra of the Earth's existence, which Scripture designates as that of *Tohu* and *Bohu*, (*without form, and void*,) profane antiquity in general and classical antiquity in particular express by the name of CHAOS; understanding by that name the ὕλη of material existences in an elementary state—the matter of a world, in a state of dissolution, and indiscriminately mixed together. And it may be added to the other proofs of the truth of the Scriptural account of the origin of the present

world, out of a state of which the two principal characteristics were the privation of light and the predominance of the element of water upon its surface every where, that, according to primitive tradition also, as embodied in every Cosmogony of profane antiquity, the characters of the primordial state of things, older than any world, yet the matrix or cradle of every world, were these two more particularly, *Darkness* and the *Deep*<sup>e</sup>.

x. Lastly, if the light both of the sun and of the moon was suppressed, and the breath of life itself was withdrawn by the dissolution of the atmosphere, just at the ingress of this year of *Tohu* and *Bohu*; it is a necessary inference from that fact that life of every kind, whether upon or in the earth itself, must have been extinguished at the same moment. And it will follow from this fact too that whatsoever, and how many soever, the forms and modes of animated material existence before in being up to the ingress of this year, none of them could have continued in being through that year. It will follow from this fact also that no kind or variety of animated nature, which is now in being on the face of the earth, can possibly date its existence from an earlier epoch than the *Mosaic Creation*. And it follows from both these facts that it must be equally impossible to trace any kind of life, older than the *Mosaic Creation*, by natural descent lower down than this epoch of *Tohu* and *Bohu*, or any kind of life, younger than the *Mosaic Creation*, by natural ascent further back than the epoch of the *Mosaic Creation*.

And this must be fatal to the newly broached hypothesis of the derivation of all the varieties of animal and sentient life with which naturalists are acquainted at present, from certain imaginary archetypal forms, (possibly the work of some creator *ab extra* to themselves,) endued with an instinct which this hypothesis calls that of NATURAL SELECTION; impelling each inferior order of such beings to aspire at, and to work out, its own perfection, in the way of what it also calls the MIGRATION of SPECIES; as if on a graduated scale, from an inferior to an higher perpetually. This theory supposes an instinct of that kind, and tending in this direction perpetually, whereby to account for the gradual deve-

<sup>e</sup> Origg. Kal. Hell. iv. 415.

lopment of the most perfect, out of the most rude and elementary and imperfect, of the same kind of beings in general; but it does not dispense with the ordinary process of natural propagation also, as necessarily going along with this of the selection and migration of species. If so—granting even that such an hypothesis *per se* were as probable *a priori* as it is improbable—granting that it was as capable of being confirmed by phenomena and the evidence of the fact, as it is incapable—granting that the genera and species of extinct life, brought to light by geology, and those which are in existence on the earth at present, were the same—granting the hypothesis also the utmost length of time, for the development and completion of its process of selection and migration, which it might demand—still, as a means of connecting life yet in existence in or upon our globe, with life which once existed in or upon it, by any process of selection and migration, in the way of uninterrupted natural propagation and descent also, is simply absurd, simply ridiculous, because absolutely and totally impossible. The year of *Tohu* and *Bohu* has effectually barred this hypothesis; and interposed a chasm between all life before, and all life after, its own proper limits, which no hardihood of conjecture, or freedom of assumption, will ever bridge over and pass. Trace this process of selection and migration from the very first day of the Material Creation down to the very first day of that year, as you may, it must necessarily stop short there. The threads of life on the *other* side of that year can never be connected, in the same living tissues, with the threads of life on *this* side of it. All ante-Mosaic life must end with the ingress of the year of *Tohu* and *Bohu*, and all post-Mosaic life must begin only with the *Hexaëmeron*; and neither can have any thing in common with the other, except that possibly, (though, in my opinion, even that is by no means certain,) both might be the work of the same Creator<sup>f</sup>.

<sup>f</sup> Appendix, note K.

SECTION VIII.—*On the æconomy of the first three days of the Hexaëmeron, in having had light before the appearance of the sun. Testimony of the Witnesses.*

That, according to the *prima facie* construction of the Mosaic account of the Hexaëmeron, there was something peculiar to the first three days of that week, in contradistinction to the last three, is universally admitted. We must begin therefore with endeavouring to ascertain in what that peculiarity consisted.

Now, i. that it did not consist in the *length* of these first three days, or in the rule of the *reckoning* of these first three, as any thing different from the *length* of the last three, or the rule of the *reckoning* of the last three, is clear from the fact that one and the same measure of duration, that of a *νυχθήμερον* properly so called, and one and the same rule of reckoning that *νυχθήμερον*, from evening to morning—and from morning to evening—is applied by the Scriptural account itself to both alike.

And, ii. though this primitive rule of the noctidiurnal cycle itself was originally founded on the fact, (known to us at present from Scripture, and known to the antediluvian and the postdiluvian world from tradition,) that the antemundane state of things was one of *darkness*, and the first noctidiurnal cycle came into being out of the darkness of Chaos itself; yet that the peculiarity of this *first* cycle, and of the *two* next to it, did not consist in the proportion of the parts of each, one to the other, as not equally divided between *light* and *dark*, or dark and light, appears from the fact that the proper work of the first of these days, the very first act of Creation itself, was the production of *light* for the use of this day, and as a means of distinguishing the *evening* of this day from the *morning* of this day, and *vice versa*.

In what then did it consist? We may answer First, with certainty, In having had light, yet before any sensible manifestation of the sun; consequently not derived from the sun. Secondly, with much probability, In having had this light kindled in the first of these instances, at the middle point of the equinoctial day, 6 A. M., and extinguished again at the



end, 6 P. M., and rekindled and reextinguished on the second and third, at the same two times respectively, by the act of the Deity himself. Thirdly—there being as yet no atmosphere, on the first of these days, to refract the rays of this light, so kindled by the Deity himself—if it had emanated from the horizon alone—in the fact that the light of this first day, and (from the analogy of the case of the second and the third day, in other respects, to that of this first day,) the light of the second and the third day, thus made to appear at a stated time in each instance independently of the sun, in order that it might fall on every part of one and the same hemisphere of the earth at once, was probably radiated from the zenith as well as the horizon at once.

And such, to the best of my judgment, having been the kind and degree of the anomaly peculiar to the first three days of the Hexaëmeron, though from the nature and circumstances of the case, neither the natural nor the civil measures of time were calculated to reflect it in their own decursus, or to convey any sensible proof of it to posterity, yet it was one of those things, as every one must allow, which, if known to Primitive Tradition, was as likely to be kept in mind and handed down historically, as any thing in this whole æconomy of the week of Creation besides, which could be mentioned.

Accordingly, account for the mode or channel of its transmission as we may, a very striking confirmation of this one circumstance of the Mosaic Cosmogony, the æconomy of the first three days in contradistinction to that of the last three, in those respects which have just been pointed out, is discoverable among the Greeks, in an institution of Hellenic antiquity, the *Λύκαια* of the ancient Arcadians, of which I have given an account in the third Part of my work <sup>h</sup>.

It has there been shewn, i. that the name of this institution, τὰ Λύκαια, on etymological principles, is derivable only from λύκη, and the proper sense of λύκη in Greek, whether that of *twilight* in our language or not, yet under all circumstances is that of light not derived (not sensibly at least derived) from the sun; and consequently that τὰ Λύκαια, τὰ τῆς

<sup>κ</sup> Cf. Fasti, ii. 2-10.

<sup>h</sup> Origg. Kal. Hell. iv. 567-631.



λύκης ἱερὰ, was "The feast of light, not derived from the sun<sup>i</sup>."

ii. That an instance of the actual observance of this solemnity according to its proper rule, by the Arcadians, to whom it was peculiar, B. C. 401, is recorded in the *Anabasis* of Xenophon; from which we learn first, the length of time for which it lasted, *three days*; secondly, through the chronology of the *Anabasis*<sup>k</sup>, the Julian dates of these three days B. C. 401, April 21, 22, and 23; thirdly, through these three *Julian* terms, the three *lunar* terms, corresponding to them, in the Arcadian calendar of the time being. Fourthly and lastly, (the observance having been an annual one,) from the proper lunar and proper Julian dates of the ceremony in a given year, and a given month of that year, of the proper cycle of the calendar, thus ascertained, we are enabled to ascend to the same three lunar dates, and their corresponding Julian dates, in the same month in the first year of the cycle. And the institution itself having been much older among the Arcadians than their proper Lunar Correction, when we have got to the Julian dates of this more ancient solemnity in the first year of the Correction, and in the proper month of that year, we have recovered its proper Julian dates from the first<sup>l</sup>.

Now the Julian dates, so obtained at last, turn out to be these three, April 25, April 26, and April 27—the very three Julian dates of the first three days of the Mosaic Hexaëmeron, April 25, April 26, and April 27 also. And these three days, under these three Julian denominations respectively, having been the three in that week, which had light *not derived from the sun*, and those three Julian terms also having been the stated Julian dates of the three feriæ of the Lykæan institution, (i. e. of the feast of light, *not derived from the sun*,) what can be inferred from this coincidence except that, among the Arcadians, down to the institution of this festival, tradition must have perpetuated the fact, which we know at present only from Scripture, that the first three days of Mundane time, though not peculiar in having had light ex-

<sup>i</sup> Origg. Kall. Hell. iv. 572-582.

<sup>k</sup> Ibid. ii. 213-264. 220.

<sup>l</sup> Ibid. iv. 567-572 584. 585. 580. 581.

clusively, were so, in having had light *not derived from the sun*; and that this solemnity was purposely instituted as a memorial of that fact?

This one of the traditions of the ancient Arcadians, relating to the origin of light, is confirmed and illustrated by another, relating to their own origin, and that of their city of Lycosura; of which also I have given an account<sup>m</sup>—viz. That both came into existence on the first of the days which had light in the natural way—light derived from the sun—and along with the sun itself; i. e. on the fourth of the days of the Hexaëmeron. And this too is illustrated by another, founded at bottom upon it, that the Arcadians were older than the moon, though not older than the sun. For so they must have been, if they came into existence along with the sun, *four* days before the recognised epoch of lunar time, the *luna quarta*<sup>n</sup>.

These traditions derive much authority from their antiquity; being older among the Arcadians themselves than their own Lykæa, though the date of that too was B. C. 1260. Nor does it detract from their weight that they are probably to be traced to the land of Canaan, and were brought into Greece by a colony of Arkites, escaping from the extermination of the inhabitants of the north of Canaan, in the time of Barak, (about B. C. 1330°,)—who there became the nation of the Arcadians. Not that even in Greece they appear to have been peculiar to the Arcadians. The name at least of the oldest settlement on Mount Parnassus, (older than Delphi,) *Λυκωπέλαρ*, and the name of the Natalitial month of Mundane time in the calendar of Thessaly, *Λύκεος*<sup>q</sup>, were very probably founded on the same or similar traditions in those quarters also.

SECTION IX.—*On the Deluge of Scripture, and the difficulties connected with it; and on the confirmation of the fact, in its proper order of time, by the testimony of the three Witnesses.*

The difficulty, which lies in the way of an unhesitating reception of the Scriptural account of the Deluge, is probably

<sup>m</sup> Origgen. Kall. Hell. iv. 577. Cf. supra, 25.

<sup>o</sup> Ibid. 603, 604.

<sup>p</sup> Ibid. v. 673.

<sup>n</sup> Ibid. iv. 582. 585.

<sup>q</sup> Ibid. ii. 480.

to be traced to two principal objections, the most likely of all to occur on reading this account. One, from the supposed universality of the deluge, and its consequent extension to all parts of the earth,—implying a proportional increase in the human species, and a corresponding diffusion of mankind, over all parts of the earth, in the (comparatively speaking) short interval between the Creation and the Flood,—the other, the derivation not only of mankind, but of every kind of living animal besides, birds and beasts, insects and reptiles, (of every one in short but fishes, and the other inhabitants of the deep,) in all parts of the earth at present, from the individual representatives of each, preserved in the ark. Other stumblingblocks there may be, opposed to an implicit belief in this great Scriptural fact. But there are none, in my opinion, so naturally liable to occur even to minds not of a sceptical turn, as these two. If these two can be removed, every other prejudice which is likely to interfere with the full and entire effect of the testimony of Scripture itself,—so plainly given historically to this one great fact—or with that of the corroborative testimony of the three *Witnesses*, which comes in here to attest the truth of the history of Scripture in this one of its particulars, more directly perhaps and more unequivocally than any where else, will be in a great measure removed also. Let us therefore briefly consider these two objections; beginning with the first mentioned, That of the universality of the Deluge, and the consequent universality of the subjects of such a visitation, in every part of the world,—the former affirmed, the latter implied, in the Scriptural account of the event.

i. The foundation of this difficulty is the implicit assumption that the antediluvian world in its external form and appearance, its superficial divisions and distinctions, its continents and its seas, its islands and its lakes, and the like, was only the prototype of the postdiluvian; and that the postdiluvian world, constituted as it is in these respects, is only a reflection and counterpart of the antediluvian. But is that assumption agreeable to the matter of fact? To come to some decision on that question, we must proceed as follows: i. The total or complex of the visible universe, in the idiom and style of Scripture, (as the very first verse of Genesis is

competent to prove,) in order to render it intelligible to the human comprehension, is summed up and expressed in the general designation of the Heavens and the Earth—in which, from the necessity of the case, the heavens must stand for every part of the visible universe, (the sun, the moon, the planets, and the stars,) which is not the earth, and the earth for every thing which is not the heavens.

ii. The earth, in this sense, and this relation, is a congeries of particles of matter of various kinds, the most comprehensive division of which, on a superficial and merely sensible survey of its composition, is into *solid* and *non-solid*, i. e. *fluid*; and the name of the earth, as applied to the whole of its material mass in the complex, must be applicable to it at first sight, as made up of these two divisions of its substance in particular, more than of any thing else.

iii. The idiom of Scripture, when speaking of the earth and of its component parts collectively, is agreeable to this distinction. The term which it uses for that purpose is אֶרֶץ or *Arets*, and the first instance of its use in Scripture is Gen. i. 1 and 2 itself; and its sense as so used there, by the context and by the necessity of the case, is restricted to the meaning of which I am speaking—that of a material mass, of some definite form and shape, made up of elements partly solid and partly fluid, but as yet not separated, nor distinguishable, asunder.

iv. And the earth, as a material body so constituted, being thus proposed under the name of *Arets*, not only before the work of the Hexaëmeron had been begun, but also through the first and second day of the Hexaëmeron itself; it is very observable that the first work of the third day was the separation of the two component parts of this material body—such as they must have appeared until now—the fluid as such, and the solid as such, one from the other: and the separation having been effected by the retreat of the fluid, before distributed over the whole of the surface of the solid part, from a certain part of that solid part, in contradistinction to the rest, the name, which Scripture gives for the first time to the part of the solid still covered by the fluid, is יַמִּים or seas, and the name which it gives to the part of the solid no longer covered by the fluid, first and properly is that



of הַיִּבְשָׁה, He-ibeshe, “the dry land” — secondarily, it is that of *arets*, still ; i. e. the name of the whole, as a solid and a fluid mass indiscriminately, before, transferred by synecdoche to the principal part of the solid now separated from the fluid<sup>r</sup>.

v. The command, which produced this change in the external appearance of the earth on this one day, having been *this* ; “ Let the waters under the heaven be gathered unto one place, and let the dry *land* appear,”—and the effect, which followed upon it, being described accordingly ; the natural inference from the prescribed course, and the declared effect, of this œconomy is, that if the waters under the heaven, so commanded to be gathered unto one place. were the waters, before encompassing the earth, and covering its surface every where, as encircled by the atmosphere also, here called the heaven—then these waters, so commanded to be gathered unto one place, having obeyed this command accordingly, must actually have been gathered unto one place : and it must be a necessary inference also from that fact that, howsoever large the resulting collection of the watery element into one place, and howsoever ample and capacious the receptacle provided for it, the former must still have constituted only one mass of watery particles. and the latter only one bed, as the appointed reservoir of them all<sup>s</sup>.

And this conclusion is very materially confirmed by the names directly after given, and by the mouth of the Creator himself, to the two parts of the Terraqueous Globe, now apparently for the first time distinguished asunder, “ And God called the dry *land* *Earth* (*arets*), and the gathering together of the waters called he *seas*.” For though the word, here translated *seas*, is certainly plural in the original, the gathering together of the waters, which as so gathered together were called seas, is spoken of in the singular. It is not *many* gatherings together of so many different parts of the watery element into so many different places, which were thus called seas ; but *one* gathering together of the whole of this element into one place, which was now for the first time called *seas*.

And as to the word in the original, which is here rendered

<sup>r</sup> Cf. Ps. xlv. 5.

<sup>s</sup> Cf. Ps. xxxiii. 7.



by *seas*, the word for water in Hebrew, in the singular, is מֵי, or *mi*, and the word for sea is יָם, or *im*—and these are evidently so related that, on grammatical or etymological principles, no one could hesitate to conclude that one of them, merely by inverting the letters common to both, might have been, and probably was, derived from the other. And on this supposition—forasmuch as the element of water must have been prior in the order of being to any collection of itself into one mass called a sea, it must appear much more consistent to derive *im* from *mi*, than *mi* from *im*. In that case the principle or rationale of the name of the element of water, thus modified, and transferred to the idea of a sea, will be simply the fact that, between the idea of a sea and that of the element of water, the difference is one of degree not of kind. A sea is a congeries of the element of water: and no such congeries could have been called by the name of its elementary and individual parts, in its most intense signification, more justly than that which was now so designated, and apparently for the first time, on the third day of the Hexaëmeron <sup>t</sup>.

vi. It follows from these conclusions that, from and after the work of this third day, there could have been no visible distinction in the external appearance of the earth, as a body composed partly of solid partly of fluid materials, except that of a terraqueous globe, divided into two great sections, one, that of the solid part of its substance as far as it was exposed to view, the other, that of the fluid. If so, one great and characteristic difference between the antediluvian and the postdiluvian world must clearly have been *this*; That, whereas the postdiluvian world, so far as its superficial and external appearance is concerned, always has been and still is divided into four main lands called continents, and four principal collections of the watery element at least, called oceans, besides innumerable islands and rivers and lakes, the antediluvian world, from the Creation to the Deluge, could have been distinguishable externally only into one main land or continent, and into one great receptacle of the watery element, called an ocean or sea.

vii. Moreover, as the postdiluvian world is constituted at

<sup>t</sup> Appendix, note L.

present, and has been ever since the deluge, it was usual with the geographers of antiquity, and it has scarcely yet ceased to be the usage of modern, to divide its surface into that part, or those parts, which, as subjected to no immoderate degrees either of heat or of cold, appeared to have been adapted by nature itself to the wants and necessities of animal and social existence, and into those other parts, which, from the excess of heat or of cold to which they were liable, appeared to have been disqualified, or only very imperfectly qualified, for life and society. And this habitable part of the earth, as constituted and discriminated at present, the Greek geographers called the *οικουμένη*.

Now the use which I make of the fact of this distinction between the habitable and the uninhabitable parts of the earth at present is to observe, That a similar distinction in the earth before the Flood is recognised in Scripture, and that what the Greek geographers called the *οικουμένη* of the postdiluvian world, Scriptural geography calls the THEBEL of the antediluvian, from the Creation to the Flood. But I also observe that, between the *οικουμένη* of the postdiluvian and the Thebel of the antediluvian, there is *this* great difference; viz. That whereas the *οικουμένη* of ancient geography was but a *quota pars* of the whole *terra firma* of the postdiluvian world, the Thebel of Scripture was the whole of the *terra firma*, the dry land, or the mainland, of the world before the Flood. The whole of the earth, as a terraqueous globe, whether before or after the deluge, being divided into two great Hemispheres, north and south of the equator respectively; the southern Hemisphere, both before and after the deluge, is entirely ignored in Scripture—before, as covered all over with water,—as no part of the dry land from the Creation to the Deluge at least—after, whether part of the dry land or not, and whether habitable or inhabited or not, yet as in nowise concerned with the proper history of Scripture itself. The Thebel of Scripture, the *οικουμένη* of Scripture, consequently both before and after the Flood is entirely confined to the northern Hemisphere; and the point, which has to be established concerning it at present, is *this*—That whatsoever the extent of the Thebel or *οικουμένη* of Scripture, in comparison of that of the entire surface of the *terra firma* or dry

land, since the Flood, it was coextensive with this *terra firma* or dry land itself, before the Flood.

Now that the Thebel of the antediluvian world must have been coextensive with the dry land, may be inferred, i. from the etymon and meaning of this name itself<sup>v</sup>, which, being derived, according to the best Hebrew scholars, from a verb in its own language denoting *to be fertile*, or *productive*, carries with it *virtute termini* the idea of the *fertile* and *productive*, and consequently the *habitable* part of the earth, under *all* circumstances. ii. From the characteristic distinction of the whole of the Mosaic creation, just as it was left by the Creator on the last day of the Hexaëmeron—that *all* was *good*, was *very good*—good in itself, good for all the uses and purposes unto which it had been designated from the first. If so, either there could have been no *Thebel* of this æra, in contradistinction to the *Arets*,—no part of the *Dry Land* more fertile and productive, more habitable, than another, or, if there was one, from the necessity of the case, the *Thebel* and the *Dry Land* of such an earth and such an æra of its existence must have been convertible terms, and one just as extensive as the other.

And with respect to the actual magnitude of this primitive Thebel or *οἰκουμένη*, whatsoever it was, yet, as designed originally by its Creator for one use and purpose only, that of the proper habitation of man, during the state of Paradise, or at the utmost between the Creation and the Flood, it is to be presumed that its limits would not be indefinitely large, but critically accommodated to those of the foreseen increase and diffusion of mankind between the same epochs also. Nor, if we may only assume (and on the authority of Scripture too) that one of the localities certainly comprehended in this antediluvian Thebel was the Garden of Eden or Paradise, and that one of the rivers of the postdiluvian world, traced up to its source, was a river of Paradise, and that three of the localities of the Palestine of after-times, mount Lebanon on the north, Jerusalem in the south, and Tyre in the west, were localities of Paradise also, would it be difficult perhaps to divine the extent of the antediluvian Thebel itself. It might be conjectured at least with great probability, even

<sup>v</sup> Appendix, note M.

from the superficial state and character of the circumjacent regions at present, that the sandy deserts of Libya, Arabia, and Syria of after-times probably made a part of it, and that the whole of the Mediterranean sea, and part of the continent of Asia, were comprehended in it also.

x. That the Thebel of the antediluvian world at least, even as coextensive with the Ibeshe, or *dry land*, must have been from the first comparatively of limited magnitude, may be inferred from another remarkable character, peculiar to this world, viz. That while it lasted, it had no rain, and the physical necessities of such of its inhabitants as could not subsist without water—its animals and its plants—were supplied not by rains, but by dews or mists. If such was the actual constitution of external nature, during this æra, it is a necessary inference from it, that a much greater amount of evaporation, and consequently a much greater expanse and surface of the watery element constantly exposed to the sun, must have been requisite while it lasted, than is so at present, when the same wants of animal or vegetable nature are chiefly supplied by rains. Nor perhaps, were such a problem as *this*, By what amount of the surface of water constantly exposed to evaporation, greater than at present, might the same physical needs of the animal and the vegetable kingdoms of nature be supplied even at present, independently of rain, to be proposed to the chymist or geologist, would it be difficult for him to solve it in a general way. It must be evident however even to common sense, that, if four oceans at least, besides inland lakes and rivers innumerable, are not more than sufficient to keep up the constant supply of water, for plants and animals of every kind, and in every part of the habitable or inhabited world, constituted as it is at present, in the form of rains as well as of dews; one ocean, as great as all the four, might not have been more than enough to supply the same wants for the animal and the vegetable inhabitants even of an earth not a fourth part perhaps so large as that which exists at present, in the form of dews alone.

And with respect to the fact of the peculiarity in question, that the antediluvian world, while it lasted, in some manner or other was so constituted as to be independent of rain, it is expressly asserted of the *beginning* of this world, and just



before the completion of the work of the Hexaëmeron, by Gen. ii. 4-6 itself. Again, if it be literally true as it is related of the first pair of mankind, Gen. ii. 25; "And they were both naked, the man and his wife, and were not ashamed;" (and that it is literally true is proved by Gen. iii. 7. of the very first effect of the Fall, three years later;) it must follow from that fact that, as formed at first, they had no need of clothing; and it must follow from that fact, that they had no need of protection from rain; for to have been exposed to the liability of rain, and to have been destitute of clothing, would have been incompatible with each other. It will follow from the same fact, that the temperature of the external air, while this state of things lasted, must have been such as to dispense with the necessity of clothing; and not at some times only, but uniformly, and at all times: and it would be a consequence of that fact too that a much greater quantity of vapour must have been at all times held in solution in the atmosphere; and even though it might never rain, that much more of this vapour might be condensed and precipitated in the form of dew.

And that this peculiarity of the physical constitution of the antediluvian world, thus apparently intimated of its very beginning, was still continuing, still unchanged, up to the very eve of its consummation, may be probably inferred from Gen. vii. 11, 12—in which the beginning of the Flood, as brought about by the instrumentality of rain from the air, as well as of water from the sea, is designated by the phrase of the *opening* of the *windows* of heaven, and from Gen. viii. 2, where the cessation of this part of the agency, which brought about the deluge, is described in like manner by the *stopping* of these windows again. For what could be meant by the *opening* of *these windows* for the first time with the setting in of the Flood, but the precipitation of the waters *above* the firmament<sup>x</sup>, in contradistinction to the waters *under* the firmament, the waters of the atmosphere properly so called, for the first time since the Creation, in torrents of rain? But it is most reasonably to be inferred from Gen. ix. 12-17; the appointment of the Rainbow, as the sign and seal of the covenant, which it pleased the Deity to make with the sur-

<sup>x</sup> Gen. i. 6, 7.



vivors of the deluge, just descending from the ark, for the future stability of that new world, on the possession of which, in order to replenish and people it again, like that which had just been destroyed, they were about to enter. For surely this was no old and familiar phenomenon, seen repeatedly between the Creation and the Flood, and destitute as yet of any such meaning as this, but a new phenomenon, destined to be seen thousands of times in the interval between the descent from the ark and the end of the world, but always with a recognised meaning of this kind, as the visible token of the covenant between God and all Flesh—descended from the inmates of the ark—the witness and seal of the promise, on which only man, and all the inferior orders of beings in his proper world at present, both have had, and still have, to rely for its continued immunity from any second visitation, like that of the deluge, until it shall have served its time at least, and fulfilled every purpose contemplated by its creation from the first.

xi. Lastly, these conclusions respecting the constitution of the antediluvian world, as a terraqueous globe indeed, but divisible only into one main land or continent, and one main sea or ocean, are confirmed by primitive tradition.

i. It has been shewn in my *Origines Kalendarie Hellenicæ*<sup>z</sup>, that the Νῆσος Ἀτλαντὶς of the Timæus and the Critias of Plato, the idea and knowledge of which were derived by both from Egypt, was neither more nor less than the traditional impersonation of this antediluvian world, (still preserved among the Egyptians down to the time of Solon, if not of Plato)—an island, like this Νῆσος, or a continent surrounded by the sea on all sides—and agreeing with this island, to a certain extent, even in its locality, the Atlantic ocean, and in the part of it close to the Mediterranean sea, which itself, as I observed above<sup>a</sup>, was probably a principal part of the antediluvian Thebel, if not of the antediluvian Paradise itself.

ii. It has been shewn<sup>b</sup> that the Ὠκεανὸς or Ὠκεανός of Hellenic tradition was simply this ocean of the antediluvian world, so called from its encompassing and embracing the

<sup>y</sup> Cf. Ps. lxxxix. 37. Isaiah liv. 9.

<sup>z</sup> Vol. iv. 104-111.

<sup>a</sup> Pag. 62.

<sup>b</sup> Orig. Kal. Hell. v. 137. vi. 352.

*terra firma* of that æra on all sides—treated as a *person*. The proper meaning of *ᾠή* in Hebrew is that of a *cincture*, a *girdle*, a *zone*; any thing which goes round or encloses something. Out of this, Hellenic tradition made *ᾠγγύς* or *ᾠγγυγός*, as the eponym of this circumfluous ocean of the antediluvian world, and called the Flood of Scripture, effected through the instrumentality of this ocean, the Flood of Ogygus.

iii. It has been shewn<sup>c</sup> that this peculiarity of the constitution of the world before the Flood is the true explanation of the mistake and misapprehension of that of the postdiluvian world, into which the oldest geographers among the Greeks and the other nations of antiquity appear to have fallen in common; that of assuming that the earth of their own world was surrounded by an ocean on all sides too. This fact was true of the earth before the Flood; and having been handed down by tradition into the postdiluvian world, it naturally led to the mistake in question—until it was corrected by observation and experience of the matter of fact itself. Nothing was more likely to be assumed at first than that the postdiluvian world in its external constitution was nothing different from the antediluvian; and that being assumed, if the former had been surrounded by an ocean on all sides, the latter must have been so too.

We may now pass to the second question, proposed for preliminary consideration—The difficulty connected with the supposed perpetuation of all the species and varieties of animal life, existing at present, through the individuals preserved in the ark.

This question is virtually that of the scope and comprehension in general, and the specific kinds and distinctions in particular, of the Zoology of the antediluvian world—and this, in its first and most proper relation, is the question of the zoology of the Hexaëmeron—and that is neither more nor less than the question of the kinds and varieties of animal life, the *genera* and *species*, as first brought into being on two of the days of the Hexaëmeron in particular, the *fifth* and the *sixth*.

And with respect to these, it appears from Gen. i. 18. 21 : ii. 19. that, (if we pass over the proper inhabitants of the waters,

<sup>c</sup> Origg. Kal. Hell. iv. 108 n. vi. 352.

with which we are not concerned in the present inquiry,) the proper creations of the fifth day consisted of none but what are called עוף or כנף Aouph, and Aouph-can-ouph—after their kinds; and, over and above the creation of man, those of the sixth day, it appears from Gen. i. 24. 26. 28. 30, were simply these three in general: בהמה or Behemeh, after his kind, הית השרה or Heith-heshedeh, after his kind, and רמש or Remesh, after his kind.

It does not appear from Gen. i. 24–26, that more kinds and varieties of animal life in general were brought into existence on these *two* days, than these *four*, Aouph, Behemeh, Heith-heshedeh, and Remesh. It does not appear from Gen. ii. 19, 20, that more than the individual representatives of these four kinds of animal life in general were brought to Adam by their Creator on the sixth day, to receive their names from him. And these being assumed to have constituted all *de facto* which began to be thus coexistent with the beginning of the antediluvian world; it does not appear, from the subsequent history of this world, that more or fewer than these in general were still coexistent with it at the end. It does not appear from Gen. vi. 7, that more or fewer than these were recognised by the Creator himself as still coexistent on the earth with man, and destined to be involved in the same destruction with man, when the futurity of the flood was first announced. It does not appear from Gen. vi. 19, 20: vii. 2, 3. 8, 9. 21. 23: viii. 17–19: ix. 10 (cf. 1 Kings iv. 33), that more or fewer of the individual representatives of the existing kinds and varieties of animal life than those of these four, (so brought into being at first, and so kept in being until now,) Aouph, Behemeh, Heith-heshedeh, and Remesh—resorted to Noah, just on the eve of the deluge, to be received into the ark, or issued again from the ark, when the deluge was over.

If then we proceed to inquire into the particular meaning of each of these terms,—the kinds and distinctions of animal life, denoted by each of them respectively,—we shall see every reason to conclude both from the etymology of the terms themselves, and from the idiom of Scripture in the use of them, and from other considerations<sup>d</sup>, that the proper

<sup>d</sup> Appendix. note N.

meaning of Aouph, or Aouph-canouph, in Hebrew, in all these instances, is that of *ὄρνις* or *ὄρνειον* in Greek, *avis* in Latin, *bird* in English; the proper meaning of Behemeh in all these instances is that of *domestic* animals, or animals capable of being *domesticated*; the proper meaning of Heith-heshedeh, in contradistinction to Behemeh, is that of *wild* animals as opposed to *tame*—animals naturally *wild* and incapable of being *domesticated*, but not dangerous nor injurious to man; the proper meaning of Remesh is that of the smaller animals in contradistinction to the larger; animals which have four feet, as well as the larger quadrupeds, but whose proper motion, in contradistinction to that of quadrupeds in general, may be described as that of *creeping*, rather than *walking* or *striding*.

If this is a correct representation of the meaning of each of these four terms, then it will follow from that of the first that, unless aouph in Hebrew, any more than *ὄρνειον* or *ὄρνις* in Greek, or *avis* in Latin, or *bird* in English, *virtute termini* could be capable of denoting *insects*, or every other description of winged creatures distinct from birds in general, the zoology of the antediluvian world must have been totally destitute of one of the largest constituent parts, and the most difficult of all to preserve in its integrity through the year of the deluge, of that of the postdiluvian—its INSECTS. Not one specimen of this class could have made part of the animal life of the antediluvian world from the Creation to the Flood; and for no one individual species of this class, which existed before the Deluge and did not exist at present, were any such *de facto* discoverable, would Scripture be responsible.

In like manner, from the explanation of the meaning of the fourth term, it must follow that neither could another considerable, yet very minute, part of the animal life of the postdiluvian world have entered into that of the antediluvian, the class of *crawling*, in opposition to *creeping*, things—of creatures which *trail*, or drag themselves along on their bellies, in contradistinction to those which *walk*, or go on feet, however slowly—such as worms, &c.—the serpent only, for a special reason, having perhaps been an exception to the



rest of this class<sup>c</sup>. So that neither for the preservation of any individual specimen of life of this kind at present, through the year of the Deluge, would Scripture be answerable.

And with respect to the two other terms, Behemeh and Heith-heshedeh, if the kinds of animals, denoted by them, have been rightly explained either of *domestic* animals, or if *wild*, yet not inimical or dangerous to man, it will follow that the zoology of the antediluvian world from the Creation to the Deluge must have wanted another large class of the animal life of the postdiluvian, that of *carnivorous* animals—that of beasts or birds of prey.

That animals of this description indeed, whether beasts or birds, could not possibly have found a place in such an œconomy or state of things as that of Paradise, and before the Fall, (especially if we reflect on the length of time for which that state actually lasted,) it requires no argument to prove. The very idea of animals, formed on purpose to prey upon each other, and endowed by their Creator with an organism and instincts adapted to that destination, is alien and repugnant to the idea of a state of innocence and guilelessness, a state of peace and harmony, a state of goodness and happiness, not to say a state of immortality, like that of Paradise, while it lasted. And it would only aggravate the absurdity of the contrary supposition to assume that they might have been created with such an organism, as if for such a destination, from the first, yet have been miraculously withheld from applying these natural organs to their natural use, or have had those instincts, which would have impelled them to do so, preternaturally restrained or modified in some manner or other, while the state of universal innocence and universal peace was still continuing. We are taught indeed in Scripture<sup>f</sup> to expect such a manifestation of the Divine Power and Goodness, as this of controlling or changing the natural dispositions and instincts even of the most ferocious animals, under the Millenniary Dispensation—and so far under an œconomy, analogous to that of the state of Para-

<sup>c</sup> Appendix, note O.

<sup>f</sup> See my Exposition of the Parables, &c., i. 441-444.

dise or of the Beginning. But this, as every one must allow, is a totally different thing from what we are supposing at present ; the intentional creation of animals, from the first—with such and such organisms, as if for such and such an use and purpose—yet without the instincts which would have impelled them to such an use of those organs—or merely in order both to restrain the instincts which would have impelled them to that use, and to render superfluous the organs which must have been adapted to their use, while the Fall of man, and its consequences to the existing state of things, though foreknown to the Deity, humanly speaking, was still a distant and still even a contingent event.

And if animals of this description in particular could have made no part of the zoology of the antediluvian world between the Creation and the Fall, there is no reason to suppose them created all at once even after the Fall, and as a consequence of that event. It is in the highest degree inconsistent to suppose that, for the long interval between the Fall and the Deluge, free license could have been given by the common Creator to the inferior animals to prey upon each other, and even upon men, and yet permission to make use of animals for food, not yet have been conceded to men themselves. It is clear too, from Scripture itself, that whatsoever the consequences of the Fall to the moral nature of our first Parents, its effect on the physical conditions of their existence at first extended no further than possibly a change in the air and temperature (though that is by no means a certain point<sup>s</sup>) entailing the protection of clothing—the superinduced barrenness of the ground instead of its spontaneous productiveness, until then—the appearance of thorns and thistles, where they had never been seen before—the particular doom of the Man, to contend from that time forward with such obstacles as these, in order to his own subsistence, to earn his bread with the toil of his hands, and with the sweat of his brow:—the particular doom of the Woman, from this time forward to be subject to the Man, instead of continuing on a footing of equality with him, the particular pangs of childbirth, and the more frequent repetition of personal suffering of that kind through a multiplied conception of

\* Appendix, note P.

children. But every description of physical evil, with which man ultimately had to contend, and as a consequence of the Fall, was not inflicted upon him at once. Even the execution of the sentence, "In the day thou eatest thereof thou shalt die," in which instant death as the punishment of the first act of transgression appeared to be plainly denounced, in its literal sense was suspended a thousand years.

In a word, that no species of animal could have been created along with man, and destined at first to live in the same world as man, except those whose nature, dispositions, and organisms were adapted to such an end and design of their being, appears from Gen. i. 30, which particularizes the proper food of each, as provided and prescribed by their Creator himself, from the moment of their coming into existence; "And to every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is life, *I have given* every green herb for meat<sup>b</sup>." And as none but graminivorous animals, on this principle, could be supposed to have been created before the Fall, so that, even after the Fall, none but animals of the same description could still have been living in common with men, down to the eve of the Deluge itself, appears from Gen. vi. 21, which prescribes the kind of food which Noah was to lay up in the ark, for his own subsistence, and for that of the rest of its inmates, during the year of the Flood. "And take unto thee of all food that is eaten; and thou shalt gather *it* to thee: and it shall be for food for thee and for them." Animal food, we may take it for granted, could not have been included in the scope of the terms of this prescription; yet on what other kind of food could carnivorous animals, without a miracle, have been fed?

It is no objection, that the distinction of clean and unclean even among the animals of the antediluvian world, is recognised, Gen. vii. 2, before the Flood; for that was no distinction of the natures of animals themselves, as savage or tame, but simply of their uses, especially in respect of sacrifice. And in this sense and relation, it probably went back in its origin to the very date of the Fall, and to a positive appointment, immediately after it<sup>i</sup>; the reasons of which

<sup>b</sup> Cf. Ps. civ. 14.

<sup>i</sup> Fasti, ii. 160 sqq.

even then were much the same at bottom with those of the similar distinctions, laid down so long after for the Levitical œconomy<sup>k</sup>.

As the result then of these explanations it must now appear, i. That the Deluge of Scripture might have been universal over the Thebel of the world of that epoch, and the subjects of the destruction of life, thereby produced upon the surface of this Thebel, universal also, and yet neither the Thebel itself in point of extent, nor the number and variety of its inhabitants, though diffused over all parts of it, whether men or animals, might have been any thing inordinately great. And ii. though even to imagine difficulties, and much more impossibilities, wherever Omnipotence directed by Omniscience was the supposed agent of the resulting effect, would be simply absurd; yet, if humanly speaking to *our* apprehensions it might not be easy to comprehend how the command, given to the waters on the third day, to evacuate the surface of the earth, and to retire within certain prescribed bounds, could have been executed in one day by the simultaneous retirement of the fluid matter, in both hemispheres, and from four continents, and innumerable islands, some of them almost as large as continents—yet even to *our* apprehensions, when the limited extent and boundaries of the antediluvian Thebel or Dry land as such are once understood, all appearance of difficulty vanishes, and nothing would seem to be easier to Omnipotence than thus to lay bare so small a part, comparatively speaking, of the entire surface of the earth, even in one day. And with the vivid description of the process, left on record in the civth Psalm, we might almost fancy we saw it going on ourselves, and could follow the waters, with our bodily eyes, hastening to give effect to the command as soon as received, rolling up the hills, in their way, with as much speed and facility as down to the valleys beneath, the sooner to reach their appointed place: “Thou coveredst the earth with the deep as with a garment; the waters stood above the mountains. At thy rebuke they fled; at the voice of thy thunder they hasted away. They go up by the mountains; they go down by the valleys,

<sup>k</sup> Leviticus xi. 2-8 sqq. xx. 25. Deuteron. xiv. 3-20.



unto the place which thou hast founded for them. Thou hast set a bound that they may not pass over, that they turn not again to cover the earth."

iii. It might be thought a difficulty (and in fact it has been—the very difficulty which gave occasion to Burnet's Theory of the Earth) with the earth, constituted as it is at present, and divisible into four continents, and innumerable islands, supposed to be nevertheless only the counterpart of the antediluvian world in the same respects, not only to conceive the bringing up of the waters of the sea on all these continents and all these islands at once, but even to conceive a sufficient supply of the watery element, as diffused over the rest of the surface of the globe, merely to cover and submerge the dry land everywhere,—much more to be heaped fifteen cubits and upwards above the tops of the highest mountains which are to be found on the earth at present. These difficulties, and all such as these—(no difficulties as they would be, under any circumstances, to Omnipotence—) yet even to a mere human apprehension of their magnitude shrink into their proper dimensions, and are seen at once to be purely imaginary, when all that was required even of Omnipotence was to bring up the ocean of the antediluvian world, on the Thebel of the same world, either on all sides at once, or in one particular direction at first, and gradually over the rest; and to lay under water not only the surface, but even the mountains, of that antediluvian continent itself; the height of which, for anything we know to the contrary, might have been very different from that of the mountains of the world at present.

iv. It must now also appear that, with such a zoology as the antediluvian, comprehending as yet none but graminivorous animals, whether birds, or beasts, or reptiles<sup>1</sup>, and these too limited to such as are either naturally domestic, and everywhere found living in subjection to man, or if wild are harmless and inoffensive in their instincts at least, nothing would be easier, even to our own apprehensions, than the perpetuation of every existing species of this kind, which characterized the zoology of the world before the Flood, into

<sup>1</sup> Appendix, Note Q.

that of the world after the Flood, through the individual types and representatives of each, kept alive for the year of the deluge in the ark. Nor is it any serious, much less insuperable difficulty, that on these suppositions, a great part, and perhaps even the largest part, of the Zoology of the Postdiluvian world must consist of *additions* made to that of the antediluvian; i. e. of new creations, of the productions of new exertions of the same Creative power, to replenish the habitable parts of the earth after the Flood, which had been put forth at the beginning of things for the same purpose, in behalf of the Thebei before the Flood. Scripture indeed is silent, with respect to the fact of any such new creations. But if Scripture itself has furnished the data from which even this fact must necessarily be inferred, its silence is equivalent to its testimony. The true Natale Mundi of the existing state of things is the day of the descent from the ark; and if a new world, so to say, in comparison of the antediluvian, actually came into being on or against that day too, it is no wonder, it should have been found prepared and fitted up with every thing necessary to its proper use and destination, especially with so material a part of the κόσμος or furniture of every world, as its proper animal and proper vegetable life. It is not to be supposed for a moment that, when the work of the Hexaëmeron was over, the Creator, by the institution of the rest of the Sabbath for the observance of man, precluded himself from any future exercise of the same power, and wisdom, and goodness, in the same way. We have our Lord's assurance<sup>m</sup> that, notwithstanding this interposition of the Sabbatic rest in the beginning, the Father had continued to work in some manner or other down to his own time; and the author to the Hebrews has taught us<sup>n</sup> that the true Σαββατισμός, of which the Patriarchal and the Levitical was but the shadow, is still to come, and destined to close and consummate only the whole series of the workings of God, as the Maker and Preserver, the Orderer and Disposer, of everything and everywhere, and at all times, from first to last.

Both these objections to the credibility of the Scriptural

<sup>m</sup> John v. 17.

<sup>n</sup> Hebrews iv. 3-10.

account of the Deluge *a priori*, having thus been removed, we may pass to that account itself, and to the confirmation and illustration of its principal circumstances, by the testimony of our three Witnesses, the Natural measures of time, the Primitive Calendar, and Primitive Tradition.

And 1st, with respect to the year of the event. It is very observable that, as the only data for the determination of the age of the antediluvian world at this time of its destruction are the details of the several *Pædogoniæ*, in Gen. v. 3. sqq. and the age of Noah, Gen. vii. 11. in the year of the Flood, so it makes no difference to the result, whether those details are reckoned in the *Æra Mundana*, from A. M. 1 B. C. 4004, the date of the Creation, or in the *Æra Cyclica*, from A. M. 4 B. C. 4001, the date of the Fall—allowance only, in this latter case, being made for the inherent difference between annual equable, and annual natural or Julian, time under all circumstances, and for the idiom of Scripture, in one or two of these instances, in the probable reckoning of current years as complete°. The resulting year of the Deluge is the same in either case, in the *Æra Mundana* 1657, in the *Æra Cyclica* 1658, in the *Æra Vulgaris* B. C. 2348; and that B. C. 2348, thus determinable from the chronology of Scripture itself as the year of the Deluge, was known to have been so, among the Egyptians, 500 years after the event, has been shewn in the *Fasti Catholici* p, and that it was still known among the Greeks to have been so, even 1507 years after the event, has been rendered, if not absolutely certain, yet highly probable, in the *Origines Kal. Hellenicæ* q.

ii. With respect to the month of the event, and the day of the month, the Scriptural date of this month and this day in the calendar of the time being was the 17th of the second month, the 17th of the primitive *Phaophi*; and if the day of the month of the deluge of Scripture went down to posterity correctly represented, it must have been as the 17th of the month. And here too it is to be observed that much later indeed than the deluge of Scripture, yet very early in Greek history itself, we meet with the tradition of an event, handed down among the Greeks, the nature and circumstances of

° Cf. *Fasti*, ii. 2,6-250.

p iii. 245. 249. 302.

q v. 748 n.

which resembled those of the Deluge of Scripture, though on a much smaller scale; that of the liberation of the waters of the great Plain of Thessaly, before an inland sea, accompanied with an inundation of the neighbouring regions, especially in the west and south: and the date of this too, we have it in our power to determine to the 17th of the primitive month<sup>r</sup>. If so, this partial deluge, affecting the countries adjacent to Thessaly, which Hellenic tradition called the Flood of Deucalion, was liable *a priori* to be confounded with the deluge of Scripture, the Flood of Ogygus; and it is certain that in the later Hellenic Tradition it was so confounded. But it would be a mistake to attribute this confusion merely to the similarity of the two events. The true link of connection between them was as much the apparent identity of the day of the event in each instance, as that of the events themselves.

iii. With respect to the Julian and the hebdomadal date of the event. The equable date of the deluge, the 17th of the second month, *Æra Cyc.* 1658, is shewn by the General Tables of the Fasti, May 5, B. C. 2348<sup>s</sup>; and the true Dominical letter that year having been D, May 5, reckoned from midnight, was the *feria tertia*. It follows that, if the waters of the antediluvian sea were brought up on the antediluvian Thebel on *this* day, they were again brought over it, on the same day of the week (and very probably at the same time of the day 6 A. M.<sup>t</sup>) on which they had been separated from it in the week of the Hexaëmeron. To minds of a certain turn, this coincidence may seem to imply nothing; but to those which are habitually disposed to refer every thing even in the most ordinary occurrences of life, much more in the several steps of so solemn and serious an œconomy as that of the Deluge, to the disposal and ordering of Providence, it will appear a truly significant circumstance that the same *feria* of the hebdomadal cycle should have been selected for the undoing of the work of the third day of the Hexaëmeron, which had been chosen for the doing of it. I have rendered it probable that the proper work of each day of the week of creation bore date at 6 A. M.<sup>t</sup>, and

<sup>r</sup> Ibid. 719 sqq. 746.

<sup>s</sup> Cf. Fasti, ii 168.

<sup>t</sup> Ibid. ii. 8. 169.



traditionary testimony is extant<sup>v</sup> that the Deluge of Scripture itself began in the *day* as such—was reckoned at least from the *day* as such, and not from the *night*.

Again, though the actual calendar date of the flood in this form of the 17th of the second month for the time being has not been handed down in *terms*, a tradition of very great antiquity, that the day of the deluge was the day of the full moon at least, is met with among the Greeks<sup>x</sup>. And that is easy to be tested by calculating the full moon of May, B. C. 2348—which being done, the mean full moon, for the meridian of Jerusalem, is found to have actually fallen out May 5 that year, as nearly as possible eight hours later than 6 A.M.Y, (and consequently on the 17th of the second month, reckoned from midnight,) and the true about ten hours later.

iv. It appears from the Scriptural account of the circumstances of the year, passed in the ark, that on the first of the tenth month, (just nine months after the beginning of the year of the Flood,) the tops of the mountains were first seen<sup>z</sup>. A tradition is extant among the Greeks, concerning the flood of Ogygus, that, after nine months continuous darkness, light first broke on the world again in the tenth month, and the island of Delos was the first object in external nature, which became visible<sup>a</sup>.

v. In the same Scriptural account of these circumstances, three intervals of seven days each are recognised between the different sendings out of the raven and the dove respectively—which have all the appearance of weeks, strictly so called. And that is proved to have been the case by the reduction of the true equable time of that year to the true Julian and the true hebdomadal also<sup>b</sup>;—while, as to the fact of these sendings out themselves, and whatever there was to distinguish them asunder, or to render any one of them more remarkable than the rest—the resort of animals of every kind, (both birds and beasts, both wild and tame,) two and two, to the ark, before the flood set in, is attested by Hellenic tradition in connection with the flood of Deuca-

<sup>v</sup> Origg. Kal. Hell. iv. 110.  
642-644.

<sup>z</sup> Ibid. ii. 170.

<sup>x</sup> Ibid. v. 159.

<sup>a</sup> Origg. Kal. Hell. vi. 107 n.

<sup>y</sup> Fasti, ii. 173 : iv.

<sup>b</sup> Fasti,

ii. 169-173. cf. Origg. Kal. Hell. Prolegomena, lx.

lion<sup>c</sup>, and the use made of the dove in particular, and the fact of the olive-leaf brought back by it on the third occasion, are confirmed by the traditionary respect ever after paid to that bird, and the estimation of the olive as the symbol of peace, every where in the postdiluvian world<sup>d</sup>.

vi. The drying of the earth not having been complete before the 27th of the second month in the second year of the sojourn in the ark, the command to descend from the ark could not have been given to Noah before this day; and if it was not given *on* this day, it could not have been given earlier than the next, the 28th of the same month. Now that it could not have been given on *this* day, may be inferred from the fact that Phaophi 27, *Æra cyc.* 1659, May 14–15, at 18 h. B. C. 2347, Dom. Lett. C. was a sabbath. But there is no reason why it should not have been given on the next day, Phaophi 28, May 16, the *feria prima* of the next hebdomadal cycle, and very probably at 6 A.M. that day. If so, the Natale Mundi of the postdiluvian state of things, dated from this descent, must have been as truly May 16 at 6 A.M. the *feria prima*, B.C. 2347, as that of the antediluvian, April 25 at 6 A.M. the *feria prima*, B.C. 4004.

And here the Primitive Calendar and Primitive Tradition both step in, to confirm this conclusion in a very striking manner.

I have given an account in my *Origines Kal. Hellenicæ* of the oldest, and in every respect the most singular and characteristic, of the institutions of the ancient Athenians, their Athenæa, more commonly called Panathenæa, traditionally attributed among them to the first and oldest of their kings, Erechtheus or Erichthonius, whether that was his most proper name from the first, or not. I have shewn that this founder of the Athenæa was the leader of a colony to Athens from Saïs in Egypt, and that the date of his coming and of his institution was B.C. 1342. I have shewn that the four distinctive parts of his institution, the Athenaic Ship, the Athenaic Peplum, the Athenaic Canephorî, and the Athenaic Thallophorî, were all founded on the Scriptural history of the

<sup>c</sup> Lucian, iii. 458. De Dea Syria, 12. cf. Plutarch, De Sollertia Anim. xiii.

<sup>d</sup> Fasti, ii. 184; Orig. Kal. Hell. iv. 115: vi. 94–101.

<sup>e</sup> iv. 79–128.

Deluge and the Ark; and that the final end of the whole solemnity was to commemorate the fact of the preservation of one family of the human race, amidst the general destruction of the rest by the waters of a Deluge, through the instrumentality of the Ark: and I have confirmed this explanation of the object of the solemnity by the original date of its institution, according to the appointment of its own Founder, May 16, B.C. 1342, the very day of the descent from the Ark, and of the Natale Mundi of the Postdiluvian world, May 16, B.C. 2347.

vii. Hellenic tradition supplies yet other confirmations of the Scriptural account of the antediluvian and the postdiluvian world respectively, and of the relation in which they stand to each other, according to that account.

As i.—in the Pelasgi of its own earliest history—who never had a real existence as the actual possessors of any part of Greece, or in fact of any other country, later than the Deluge; and yet, as their name itself would imply, (*The men of the sea*, *The men beyond the sea*,) were still traditionally recognised as the former inhabitants of the world of the Greeks, or of such and such parts of it, whose relation to them in that capacity was confined to the period beyond the flood. ii. In the name of Thebæ, given to so many of its oldest cities, in the sense of so many Arks<sup>f</sup>,—so many memorials through their name itself of the Deluge, and of the preservation of the existing race of mankind from the general destruction, through the Ark. iii. In the Kecrops of Attic tradition, Kecrops *ὁ διφρύς*—the connecting link of the antediluvian and the postdiluvian world, and equally related to both<sup>g</sup>. iv. In the Deucalion, first of Thessalian tradition in particular, and then of Hellenic in general; a type of the patriarch Noah, and, as I have shewn<sup>h</sup>, very probably deriving his name itself from one of the most striking, and the most likely to be longest remembered, of the incidents in the Scriptural history of Noah. v. In the Anius, probably first of Phœnician tradition, and then of Delian; another type of the patriarch Noah also, and both in his name, (meaning the

<sup>f</sup> Fasti, iv. 244–249: Orig. Kal. Hell. iv. 100.

<sup>g</sup> Orig. Kal. Hell. iv. 125, 126.

<sup>h</sup> Ibid. v. 744.

*Man of the ship*) and in his reputed daughters the *Οἰνοτρόποι*—and in the reasons of that name—reflecting in the facts of his supposed personal history those of the Scriptural account of Noah also<sup>i</sup>.

SECTION X.—*On the Æra of Scripture, and the Calendar of Scripture, from the Creation to the Eisodus, and from the Eisodus to the Gospel Æra.*

The facts which have been established necessarily lead to the inference that the proper Æra of Scripture, from the Creation downwards to the Deluge, must have been the Æra Cycliea, the reckoning of the age of the world and of human existence by the equable year of 365 days and nights perpetually; and that consequently the proper Calendar of Scripture, for the same interval of time, must have been the calendar adapted to that reckoning, the Primitive Equable Calendar, consisting of twelve months, (each of them 30 days and nights in length,) and of five days, over and above the last of these months, completing the year, and making up a small and imperfect month by themselves<sup>k</sup>.

And along with this peculiar reckoning of civil annual time, that of the reckoning of civil noctidiurnal also in the form of hebdomadal having come into being from the first; no one can fail to recognise in such a coincidence the peculiar adaptation of the annual reckoning of civil time to the noctidiurnal in the form of hebdomadal from the first—the head of an annual reckoning, like that of the equable solar year, necessarily advancing one term or *feria* in that of noctidiurnal as measured perpetually by the hebdomadal cycle, every year; and annual time in this form, and noctidiurnal in that of hebdomadal, returning to the relations of origination *inter se* every eighth year perpetually<sup>l</sup>.

The epoch of origination then of this primitive annual cycle, and that of the accompanying hebdomadal cycle, being assumed accordingly—the former the first day of Æra Cycliea 1—the Primitive Thoth 1, Æra Cyc. 1—the latter the *feria prima* of the first hebdomadal cycle, and both April 25,

<sup>i</sup> Origg. Kal. Hell. v. 101–106.

<sup>k</sup> Fasti, i. 610–617. 621, 622: cf. Appendix, B.

<sup>l</sup> Cf. Introduction to the Tables, &c. 130, 131–132–137

Origg. Kal. Ital Preliminary Address, lxxxix.



according to the Julian rule, at midnight, B. C. 4004—we are able to trace both these cycles in conjunction, through the intermediate Scripture history and chronology, from this common point of departure down to the last day of the old world, the 17th of the primitive Phaophi, *Æra Cyc.* 1658, May 5 B. C. 2348, the *feria tertia* at midnight; and both in conjunction through the year of the Flood to the day of the descent from the ark, the first day of the new world, Phaophi 28, *Æra Cyc.* 1659, May 16, B. C. 2347, the *feria prima* at midnight. And from this second epoch of origination of both in common, we can follow both through the Scriptural account of the postdiluvian course of things, down to the eve of the Exodus from Egypt.

The year of the Exodus from Egypt having necessarily been *forty* years, whether in the *Æra Cyclica* or in the *Æra Vulgaris*, before that of the Eisodus into Canaan, and this latter year, as we hope to see hereafter, being infallibly determined by a character and criterion of its own to *Æra Cyclica* 2487, B. C. 1520, that of the Exodus, 40 years before, is necessarily determined to *Æra Cyclica* 2447, B. C. 1560.

At this point of time however, (i. e. just on the eve of the Exodus,) it pleased the Deity to make a change in the calendar as before in use among the people of Israel, as much as among the rest of mankind, for *their* observance from that time forward in particular—while it was left to go on among the Egyptians their contemporaries, and every where else, just the same as before. The question therefore naturally occurs here, What was the nature of this change; what was the object proposed by it, and to what extent did it go? In answer to which it may be observed, that it clearly appears from the history of the new calendar itself, that whatsoever else was proposed by this correction, its first and direct effect was not to substitute a totally different kind of the reckoning of civil annual time for that which was before in use, but merely to change the *beginning* of the reckoning before in use,—to substitute a new beginning of the same kind of reckoning which was before in use, instead of that which must otherwise have been its beginning still. The annual reckoning of civil time up to the date of this correction was the Equable one, according to the Primitive rule from the

first; and it continued to be the Equable one, after this correction, only from a different new year's day<sup>m</sup>.

The next question is, consequently, What was this new epoch of the primitive reckoning of civil annual time, now prescribed, for the use of the Israelites in particular? and by what means is it to be determined at present? And in answer to this question also, it may be observed, There are many arguments and considerations, from which a correct idea may be formed of this epoch, even at present; by means of which at least the extreme limits of the first month of the new calendar, which came into being among the Israelites, may even now be very probably assigned.

As, i. The *name of this month*, as now given it for the first time, yet with a special reference to the place which it was designed to fill in the calendar; the name of Abib. For the proper meaning of this name in the Hebrew being that of the month of "Green ears," the *mensis spicarum viridantium*—the month of the ears of corn, still green, but approaching to maturity, and the ears of corn in question being intended of barley, not of wheat; the limits prescribed for such a month by its name itself must have been the same which nature also always did prescribe, and still continues to prescribe, to the time of the year when barley-harvest, for the climate of Egypt or that of Palestine, though not yet fully ripe, should be fast approaching to maturity: and that, as I have often had occasion to shew<sup>n</sup>, is a stated season of the natural year, neither much earlier nor much later than the mean or the true vernal equinox. At this period therefore of mundane time, B. C. 1560, when the mean vernal equinox was falling on April 6, and the true on April 5, judging from this criterion of the name of the first month of the new calendar alone, we might venture to say its actual date must be found somewhere neither much earlier nor much later than April 5 or 6.

ii. The rule, for the observance of the Passover ever after the Passover of the Exodus, prescribed at the same time, and

<sup>m</sup> Cf. Fasti, ii. 148. 206-210.

<sup>n</sup> Cf. Dissertations on the Principles and Arrangement of an Harmony, i. 314-333: Prolegomena ad Harmoniam, cap. i. 22-26. 28: Fasti Cath. ii. 221, 222 *n.*: Orig. Kal. Ital. iv. 339 *n.* 350 *n.*: Hell. iii. 462. 507 *n.*

interpreted by the observance and practice of the Jewish church ever after also ; not merely in the *same month*, and on the same *day* of the *month*, as this of the Exodus, but at the *same season* of the year as this perpetually : which the usage of the Jewish church shews to have been understood and applied from the first as not only restricting the celebration of the Passover to a certain day of the first month, but the first month itself to a certain distance before or after the point of the mean or the true vernal equinox perpetually—which the learned of modern times, who have often had occasion to consider, and to come to some determination on, this question of the Paschal rule of the Jewish Church, understand by the limits of the *Mensis Novorum*, or the *Termini Paschales*, (the Paschal 14ths,) of the Jewish church.

This standard of reference indeed, the mean or the true vernal equinox, being necessarily a variable one, if not in itself, yet in terms of any fixed calendar, like the Julian, at least ; the limits of the *Mensis Novorum*, and of the *Termini Paschales*, so referred perpetually, were liable to vary also, but only in proportion to the same liability of the standard of reference itself. They fell back on any fixed term, along with the vernal equinox ; but always preserved the same relation to the verno-equinoctial term itself : so much so, that the rule of the Jewish church, in this respect, being known *de facto* from testimony, or in any other way, at a given time lower down in the history of the Paschal observance, it is easy to ascend *mutatis mutandis* merely from the actual rule of any later time, to the analogous rule of every former time, and even to the rule of the Exodus itself<sup>o</sup>. It is thus, that the limits of the *Mensis Novorum*, and the *Termini Paschales*, or Paschal 14ths, dependent upon them, once defined for the Gospel Æra, have been carried back, according to one and the same analogy, and one and the same rule, from the Gospel Æra, to the very head of the calendar, proposed as the Sacred or Liturgic Calendar of the Jewish Church, and confirmed by proper evidence of the truth of that fact, in my Prolegomena ad Harmoniam Evangelicam. And the

<sup>o</sup> Cf. Dissertations, &c. i. 329.      Prolegomena, 27-35.      Origg. Kal. Ital. iv. 339 n : 350 n : Hell. iii. 462.

epoch, *de facto*, of this calendar, B. C. 1511, having been only 49 years later than the Exodus, the earliest and the latest limits of the *Mensis Novorum*, March 17 and April 15 respectively, and the earliest and the latest dates of the *Termini Paschales*, March 30 and April 28 respectively, prescribed by the necessity of the case for the epoch of B. C. 1511, must have been equally suitable for that of B. C. 1560. On this principle, the actual date of the first *Mensis Novorum*, the first Abib, it might reasonably be assumed *a priori*, must be found somewhere between March 17 and April 15, and the actual date of the first Paschal 14th somewhere between March 30 and April 28 B. C. 1560.

iii. Notwithstanding this express appointment of one proper beginning of the year of the Israelites from this time forward, attached to the first of Abib, the evidence of another, recognised by the institutions of the Law itself, and attached to the first of the seventh month, reckoned from Abib as the first, is still discoverable even after this time. No explanation of this seeming inconsistency can be proposed so probable as *this*, That, though the preexisting reckoning of civil annual time, for certain special uses and purposes, was changed just on the eve of the Exodus, the old reckoning, for any uses and purposes but those, was left free to go on as before. And this being assumed as the true explanation of the phenomenon, it is necessarily to be inferred from the phenomenon itself that the old beginning of the year, and the new, prescribed just before the Exodus, were six months asunder. In the later calendar of the Jews the Abib of the Exodus was called Nisan, and the seventh month from Nisan was called Tisri; and in that calendar too, while the sacred or Liturgic year began in Nisan, the civil began in Tisri, and while the seat of Nisan in the natural year was at or about the vernal equinox perpetually, that of Tisri was at or about the autumnal <sup>p</sup>.

These distinctions of later times were founded ultimately on corresponding distinctions which were holding good more or less completely even at the time of the Exodus itself; and on the strength of these distinctions of later times alone, we

<sup>p</sup> Cf. *Prolegomena*, 73, 74. *Dissertation*, i. 329: iv. 67, 68. *Orig. Kal. Hell.* iii. 464.



might venture to infer that if, at the date of the Exodus, the new beginning of the year was attached to the season of the vernal equinox, the old beginning must have been falling at or about the autumnal.

Now this is confirmed by the actual date of the Primitive calendar, brought down from Thoth 1 *Æra Cyc.* 1, April 25 B. C. 4004 at midnight, to Thoth 1 *Æra Cyc.* 2446, Sept. 10 B. C. 1561 at midn. in the year before the Exodus. The scheme of this calendar, for the first seven months, would stand as follows :

*Primitive Calendar, Æra Cyclica 2446 B. C. 1561-1560.*

Month.		Midn.	B. C.	Month.		Midn.	B. C.
i Thoth	i	Sept. 10	1561	iv Chœac	i	Dec. 9	1561
ii Phaophi	i	Oct. 10		v Tybi	i	Jan. 8	1560
iii Athyr	i	Nov. 9		vi Mecheir	i	Feb. 7	—
vii Phamenoth i March 9 B. C. 1560.							

And this seventh month being that in which both the mean and the true vernal equinox, April 6 and April 5, were falling at this time, the several criteria of the Abib of the Exodus, which we have just been considering, would conspire to fix it somewhere between the extreme limits of this seventh month, March 9 and April 8: and that they would not conspire to direct us amiss, will appear by and by from the proof of the fact that the actual date of the first Abib was March 27 B. C. 1560, the 19th of the vii<sup>th</sup> month of the Primitive calendar, *Æra Cyc.* 2446.

As to the *nature* of the calendar thus prescribed for the use of the Israelites; it was nothing in general different from what it had been before. It was the primitive reckoning of civil annual time, merely adapted to a new epoch, Abib or Nisan 1, *Æra Cyc.* 2446, March 27 B. C. 1560. It is to be observed however, that as the old primitive solar calendar had its natural lunar cycle, so had this new one; and the epoch of this proper lunar reckoning of the new equable solar reckoning was the date of the first new moon later than the change of the style; which, as our Lunar Tables shew, and as it may be proved by calculation <sup>q</sup>, was April 9, B. C. 1560, the 14th of

<sup>q</sup> Cf. *Prolegomena ad Hamm.* p. 3; and Appendix, note R.

Abib, reckoned from March 27. And this 14th of the Abib of the Exodus having been also the date of the Passover of the Exodus, we are thereby made aware of another observable coincidence, viz. that though the date of the first Passover was not the 14th of the lunar month, like that of every later one, it was the 14th of the solar, and the first of the lunar, of the time being. It is worthy of notice also, that March 17 being supposed the earliest date of the Mensis Novorum of this epoch, March 27, the date of the first Abib, was just ten days later than March 17; and March 30 being assumed as the earliest Paschal term, April 9, the actual date of the first Passover, was ten days later than March 30.

From this time forward, the dates, discoverable in the history of contemporary events, between the Exodus and the Eisodus, are to be explained and verified sometimes by the proper solar reckoning of this new calendar, and sometimes by the proper lunar *pro re nata*. But they will always be explained and authenticated by one or the other. The calendar itself however continuing all this time solar and equable, it could not fail to happen that in the course of the 39 years from the Exodus, B. C. 1560, to the year before the Eisodus, B. C. 1521, it must be found to have dropped ten days, from March 27 at midnight to March 17 at midnight. The scheme of the calendar for that year will consequently stand as follows :

*Calendar of the Exodus, B. C. 1521—1520.*

*Æra cyclica 2485—2486.*

i	Abib	March 17	B. C. 1521	vii	Tisri	Sept. 13	B. C. 1521
ii	Jar	April 16	—	viii	Marchesvan	Oct. 13	—
iii	Sivan	May 16	—	ix	Chisleu	Nov. 12	—
iv	Thamuz	June 15	—	x	Tebeth	Dec. 12	—
v	Ab	July 15	—	xi	Sebat	Jan. 11	B. C. 1520
vi	Elul	August 14	—	xii	Adar	Feb. 10	—

*Epagoimenæ March 12.*

And it appears from this scheme, that the proceedings recorded in the book of Deuteronomy, beginning on the first of the 11th month, must have begun on January 11 B. C. 1520; and the Dominical Letter having been D, January 11

must have been the *feria prima*. The death of Moses, after all these events, having fallen out, according to the tradition of the Jews, on the first of the next month, Adar 1, must have happened on February 10, the *feria tertia*. And with this datum, and that of his age at his death, we are enabled to infer the date of his birth, March 10 B. C. 1640<sup>z</sup>. The passage of the Jordan, after all these things, on the tenth day of the first month, it is evident must have borne date March 26, the *feria quinta*.

And having brought down the history of this Calendar of the Exodus to the eve of the Eisodus, all that we need to observe further upon it at present is, that, from this epoch of March 17 B. C. 1520. to the division of the lands in the seventh year after, B. C. 1514, at least, it was also the calendar of the Eisodus; but this division of the country, and this settlement of the Tribes in their respective inheritances, having been only the preliminary process of the inauguration of a fixed state of things, under which the Israelites from that time forward were destined to live, it is to be presumed that the erection of the Tabernacle also, on some determinate locality, and the commencement of the regular course of the Levitical service, would bear date from the same epoch, or from some other, as soon after, as the division of the lands and the settlement of the Tribes would permit.

Now if the regular order of the Levitical œconomy was to bear date from this point of time, and if the three principal feasts, the Passover, Pentecost, and Tabernacles, from this time forward were to be kept perpetually to their respective seasons in the natural year,—the Passover, to that of Barley-harvest and the Vernal Equinox, Pentecost, to that of Wheat-harvest, half way between the Vernal Equinox and the Summer Solstice, and Tabernacles to that of Ingathering, and the Autumnal Equinox,—and if such stated observances as the new moon of every month, and the feast of Trumpets or the new moon of the seventh month in particular, from this time forward were to make a regular part of the ritual,—then, a fixed calendar, either solar or lunar, in contradis-

<sup>z</sup> Cf. Fasti, ii. 210–217.

tion to a moveable one, from this time forward would become indispensable. The calendar however, which would be wanted in this instance, from the nature of the case, being not only a fixed one, (within certain limits at least,) but both a lunar and solar one at once,—if the primitive solar and lunar cycle, as liable to recede perpetually through all the seasons of the natural, and all the months of the Julian year, was not competent to answer the purpose proposed by it,—it is evident there would be no alternative but that of adopting some one of the proper lunar cycles of the solar, in the sense of the Julian, year in its stead.

Now there are only three lunar cycles of this kind, the Octaëteric, the Hekkaidecaëteric, and the Metonic. And lunar time in both the former being liable to advance three terms in the order of solar in the sense of Julian, every sixteen years, it is manifest that for the use of the Tabernacle, and for the Levitical service, and by parity of reason, as the National Calendar also, from this time forward, the necessity of the case must have prescribed the Metonic cycle. And this is confirmed by the matter of fact, discoverable from this time forward also; viz. That the National, as well as the Ritual and Liturgic, Calendar of the Jews, from the time of the settlement of the tribes, and the erection of the Tabernacle at Shiloh, (where it was first permanently set up,) was regulated by the Metonic cycle of 19 years, subject to the correction required by it in the period of 304 years<sup>s</sup>.

I have given the necessary account of the structure and details and administration of this calendar, in my *Prolegomena ad Harmoniam Evangelicam*<sup>t</sup>. It is sufficient at present to observe upon it that its proper epoch of origination having been April 8 the Feria 7<sup>a</sup> at midnight, B. C. 1511, it was only three years later than the beginning of the division of the lands, B. C. 1514; and this epoch itself having been derived from the lunar cycle of the equable year before in use, the lunar time even of this Metonic calendar might be said to have merely taken up and continued that of the correction of the Exodus, April 9, B. C. 1560. The calendar of Scripture however, from this time forward, having been

<sup>s</sup> Cf. *Fasti*, i. 70.

<sup>t</sup> *Caput* i. 1-84. cf. *Introduction to the Tables of the Fasti*. 79-96.



changed from the equable solar and lunar one of primitive antiquity into the solar and lunar one of the Julian reckoning in the form of the Metonic cycle, the *Æra* of Scripture also, from this time forward, must have undergone a change from the *Æra Æquabilis* or *Cyclicæ* to the *Æra Mundana* or *Vulgaris*.

The importance of this calendar, and the services which it is competent to render to the chronology of Scripture—through the Book of Judges, and the Books of Kings and Chronicles—(i.e. in threading the mazes of what has hitherto been considered the most intricate and inexplicable part of its details.) cannot be overrated; and may possibly some time be made to appear by circumstantial proofs of the fact. At present, I shall say no more about it than *this*; That if the calendar of my Prolegomena is proposed as the actual calendar which the Jews must have had among them from the time of their settlement in the promised land, and must have used perpetually while they were still in possession of their own country, it rests its claims to be received, as well as proposed, in that capacity on the following grounds:—

i. Because every date, which is given in terms in Scripture, or is inferentially deducible from it, is verified by this calendar in its proper order of time<sup>v</sup>.

ii. Because the succession of the courses of the priests, from Sabbath to Sabbath, from B. C. 1004, the date of the dedication of the first temple, to B. C. 588, the year of its destruction; and from B. C. 536, the date of the return from captivity and of the restoration of the Levitical service, down to A. D. 70, the year of the destruction of the second temple, is verified by this calendar perpetually<sup>x</sup>.

iii. Because it is strikingly confirmed by the coincidences pointed out in the *Fasti Catholici* B. C. 973<sup>y</sup> and B. C. 594<sup>z</sup>.

iv. Because it is the calendar recognised in the two Books of Maccabees<sup>a</sup>.

v. Because it is the Jewish or Sacred Calendar of the Gospel æra, from B. C. 5 to the end of the Acts of the Apostles<sup>b</sup>.

<sup>v</sup> Cf. Proleg. cap. i. 49–56.

<sup>y</sup> *Fasti*, ii. 537–542.

<sup>z</sup> *Ibid.* ii. 550.

<sup>a</sup> Proleg. 56, 57.

<sup>b</sup> *Origg. Kal. Ital.* iv. 284–308.

Proleg. iv. 171–284. *Harmonia Evangelica*, editio tertia, et sequentes.

vi. Because it is the calendar of Josephus all through the Antiquities, and the History of the War, with merely the Macedonian names of the months, instead of the Jewish<sup>c</sup>.

vii. Because it was still the calendar of the Jews down to the end of the war with Adrian, A. D. 135<sup>d</sup>—and because there is reason to believe that even the modern Jewish calendar is ultimately derivable from it<sup>e</sup>.

SECTION XI.—*On the æconomy of Human Redemption ; and the light reflected upon its progressive consummation by the true chronology of mundane and human time.*

Upon this mysterious subject of the Incarnation and Suffering, the Humiliation and Passion, of the second Person in the ever blessed Trinity, it is the doctrine of Scripture, and in particular that of the New Testament, that, as the appointed means of restoring a fallen world to its original place in the favour of its Creator, and among the rest of the works of his power and goodness, it was part of a plan and scheme of things, the origination of which went back into the depths of eternity, far beyond the beginning of duration as measured or measurable by the existence of any created being ; yet, until its revelation in its proper season, and in the fulness of time, it was a mystery or secret, conceived indeed in the Divine Mind, and consummated as well as planned in the Divine Counsels from the first, but concealed from, and unknown to, every intelligence but the Divinity itself.

And this representation is both illustrated and confirmed by the Scriptural doctrine also, which I had occasion to explain supra<sup>f</sup>, of the succession of Æons, prior, and incalculably prior, to the αἰὼν ἐνεστὼς, which, from the day of the creation of man, has measured the duration of human existence, yet posterior, and immeasurably posterior, to the first conception of this wonderful scheme, in which, long before the earliest of these Æons, (could the human eye look back so far,) the figure of the Son of God would still be discernible, standing forth in mingled Humility and Exaltation, as the Lamb slain and sacrificed πρὸ τῶν αἰώνων,—πρὸ καταβολῆς κόσμου<sup>g</sup>.

<sup>c</sup> Orig. Kal. Hell. iii. 449-520.  
Orig. Kal. Ital. iv. 302.

<sup>d</sup> Diss. iv. 98. Append. Diss. xviii.  
<sup>e</sup> Cf. Proleg. 71-84.

<sup>f</sup> Page 16 sqq.

<sup>g</sup> Cf. Fasti, ii. 301.

The progressive development of a mystery like this, running parallel to the decursus of æons, from the time when the first of the number, prior to our own, began its course, even had it been circumstantially revealed in Scripture, would doubtless have been found too much for the grasp of the human comprehension; and a course and succession of things such as this, which had its beginning so far back in eternity and its consummation so late in time, presented in its totality to such limited faculties as ours, from the very magnitude of the scheme, could have left only a vague and indefinite idea of its real greatness, and its essential claims to our wonder and admiration. Let us confine ourselves therefore at present to so much of the proper œconomy of this scheme, as is discoverable, through the proper chronology of our own system of things; and while it is competent to illustrate, in a very striking manner, the preconceived and preordained methods and arrangements of all its preceding stages, through the analogy of those of this last of all—is calculated to do so intelligibly to ourselves.

With this view then I begin with observing that no sooner do we go back to the beginning of our own system of time, and no sooner have we been made aware of the true *Æra* by which the chronology of this system must have been reckoned from the first, than we find ourselves obliged to infer from that fact itself that the lives and deaths of the antediluvian Patriarchs, recorded in Gen. v, could not have borne date from the first year of the Mosaic creation, A. M. 1, but at the earliest only from A. M. 4<sup>h</sup>. And this discovery necessarily leads to another, that the life of the first of the number, that of Adam in particular, could not have been reckoned from the day of his Creation, but, at the earliest, only from some day *three* years later. And what explanation could be given of a distinction like that, except that the life of Adam, as the first of a series of lives *communis generis*, summarily recorded in this chapter, must have been reckoned by the same rule as all the rest? i. e. from the day when he too became liable to death like the rest of these patriarchs, and the length or duration of life in his case, as much as in that of any of the

<sup>h</sup> Cf. *Fasti*, ii. 236-250. 242.

rest, could now be reckoned only as the natural interval between the beginning and the end of a mortal existence<sup>i</sup>.

If so, and the actual life of the first man is thus reckoned in Scripture only from the time when he too became subject to the common law of a mortal existence, and yet is dated in Scripture itself *de facto* from A.M. 4; then, the true date of his creation, when he was not yet subjected to this law of mortality, being still A.M. 1, and the recognised date of the change in his nature, whereby he became subject to this law, being still A.M. 4, and the change itself, whensoever it took effect, having been simply the consequence of the first act of transgression; it will follow that between the *Creation* of man and the *Fall* of man, there must have been an interval of *three* years, A.M. 1—A.M. 4; and these three years must have been the proper duration of the state of innocence—the state of Paradise—and of the *Æra* of immortality, even as the measure of an human existence—so long as that too was commensurable with the duration of our own system of things.

It is another observable circumstance of the first three years, A.M. 1—4, which thus measured the duration of the *Æra* of immortality in terms even of that of the present system of things, that they made up the last three years of the first proper cycle of leap-year of the system itself<sup>k</sup>; that these three years in the decursus of the Julian time of the system were bounded on one side by the year of *No-World*, the year of *Tohu* and *Bohu*, the year immediately anterior to the Mosaic Cosmogony<sup>l</sup>—as the first year of this first cycle—and on the other by the first year of the cycle next in order to this, carrying on the proper Julian time of the system according to the same law as before, but taking its rise in the first year of an *Æra*, the law of which, in contradistinction to that of the same succession until then, has been that of the existing course of things, dated from the day of the Fall, the law of mortality<sup>m</sup>.

It is further remarkable of the history of these three years, that, though it clearly appears from the account of

<sup>i</sup> Fasti, ii. 243-247.

<sup>k</sup> Supra page 11 sqq.

<sup>l</sup> Supra pag. 45 sqq.

<sup>m</sup> Fasti, ii. 265-267.



things as soon as these three years were drawing to an end, that both before these three years and all through them, there was a Tempter, both able and willing to tempt any proper subject of his temptations, if he had been left free to follow the bent of his own nature and inclinations, he is not seen to have exerted his power to tempt until these three years were either ended, or coming to an end—from which fact, it seems to be only a natural inference that, for these three years of the existence of the first state of things,—the state of innocence, the state of Paradise,—even this Tempter was not permitted to indulge his will, and to exert his power, to tempt.

With this fact then, thus ascertained, of the three years' duration of the state of things at the beginning—the state of Paradise—let us contrast the three years' duration of the personal ministry in the fulness of time of the Son of God in the form of the Son of Man<sup>n</sup>,—That *this* three years' duration of the state of Paradise was the proper term of probation of the *first* Adam, and *that* three years' duration of the personal ministry of the Son of God in the form of the Son of Man, was the proper term of probation of the *second* Adam—and that the final end and effect of these last three years was the recovery to man of all which had been lost to him in the first three<sup>o</sup>. It will not appear an unreasonable inference from such premises as these, that the duration of the state of Paradise, (of the æra of immortality itself as still commensurable with the existence of the present world.) was accommodated from the first to the foreseen and preordained limits of the Personal appearance and Personal ministry of the second Adam, the Son of God and the Son of Man; in his proper character, and proper order of time, as the Redeemer of mankind.

Let us next proceed to inquire what is discoverable of the Birth and the Death, in the fulness of time, of this long contemplated Redeemer.

With respect to the latter, it has never been doubted, from the beginning of the Christian Æra to the present day,

<sup>n</sup> Fasti, ii. 261 : Dissertations on the Principles and Arrangement of an Harmony. Cf. in particular, Appendix, Supplement to Diss. xv. : and Appendix, Diss. xix. Vol. iv. 259 sqq.

<sup>o</sup> Fasti, ii. 262–264.

that the true date of the Death and Passion of our Lord Jesus Christ, in its proper year, was the 14th of the Jewish Nisan in that year. With respect to the former, notwithstanding the prejudice in favour of a different day, which has long had exclusive possession of the Christian world, I may venture to say that, for the first one hundred and fifty or two hundred years at least of the Gospel Æra, it was never doubted in the Church that the true date of the Birth of our Lord in the true year of the Nativity was the 10th of Nisan; and the proofs of this assertion, which have been brought to light in my *Dissertations*<sup>p</sup>, in my *Prolegomena ad Harmoniam*<sup>q</sup>, and in these *Fasti and Origines*<sup>r</sup>, fully justify me in making it.

These two data then, viz. that our Lord was born on the 10th of Nisan in the true year of the Nativity, and suffered on the 14th of Nisan in the true year of the Passion, being assumed accordingly, the next question is, What was the true year of the Nativity? and what was the true year of the Passion? In answer to which I may venture in like manner to say the true year of the Nativity, as I have myself demonstrated<sup>s</sup>, was B. C. 4; and the true year of the Passion, 33 years afterwards, as I have also demonstrated, was A. D. 30.

The next thing to be observed is that the true day of the Nativity, in terms of the Jewish calendar of the time being, having been the 10th of Nisan B. C. 4, and the true date of the Passion in the same respect having been the 14th of Nisan A. D. 30; both the 10th of Nisan B. C. 4, and the 14th A. D. 30, as the calendar of my *Prolegomena*, for each of these years respectively, shews, fell on the same day of the Julian reckoning of the time being, April 5. It follows from this coincidence that the *real* date of the Nativity and the *real* date of the Passion, (which must have been *this* Julian date of the time being,) were the same. And that being the case; if this true date of the Nativity B. C. 4,

<sup>p</sup> i. 381-549, &c.      <sup>q</sup> Cap. ii. 85-124: iii. 125-170.      <sup>r</sup> Origg. Kal. Ital. iv. 219-230. 308-342. 348-352: Fasti, ii. 586-590: Origg. Kal. Hell. iii. 552-554.      <sup>s</sup> *Dissertations*, i. 466-549: ii. 1-147. 351-381: iii. 585-642: iv. 1-65. 117-414: *Prolegomena ad Harm.* ii. 85-124: iii. 125-157: iv. 171-221: *Fasti*, i. 530-541: ii. 586-590: Origg. Kal. Hell. iii. 552-554. cf. Appendix, note R.

coincided with the 10th of Nisan that year, and this true date of the Passion A. D. 30, coincided with the 14th of Nisan in that year, what is to be inferred from those coincidences, except that, for some reason or other, it was just as necessary the future Redeemer should be born on this day B. C. 4, when it was coinciding with Nisan 10, as that he should suffer on this day A. D. 30, when it was coinciding with Nisan 14? And what reason, common to both occasions, could there be except that as born both on *this* day and on the 10th of Nisan, he might answer to the Paschal Lambs, as designated and set apart for the Paschal sacrifices, on the 10th of Nisan,—and as suffering both on *this* day and on the 14th of Nisan, he might answer to the Paschal sacrifices of that day themselves? It confirms these conclusions that, as the 14th of Nisan in the true year of the Passion must have fallen on the *feria sexta* of the Hebdomadal cycle, so, A. D. 30 Dom. Lett. F, did April 5. And though the 10th of Nisan, in the year of the Nativity, it might be supposed *a priori* must have been free to fall on *any feria* of the Hebdomadal cycle, yet, from the recorded circumstances of the event, it may be collected that the article of our Saviour's birth must have been determined *de facto* to the beginning of its proper *feria*, reckoned according to the primitive and still the Jewish rule, from sunset<sup>t</sup>. And if we may assume that its actual *feria* was the *feria prima ineunte*, B. C. 4 Dom. Lett. E, April 5, the actual Julian date of the birth, was both the 10th of Nisan and the *feria prima ineunte* too.

Such then having been the case with Nisan 10 and April 5 B. C. 4, let us go back to the first Nisan or Abib 10, B. C. 1560, when the first Paschal lambs were commanded to be taken up and set apart for the first Paschal sacrifice destined to be celebrated on the eve of the Exodus. The first of Nisan B. C. 4, reckoned from sunset, was March 27; and the first of Abib B. C. 1560, as we have assumed<sup>v</sup>, reckoned from sunset, was March 26. On this principle, there could have been no difference between Nisan 10 B. C. 4 ineunte and Abib or Nisan 10 B. C. 1560 exeunte<sup>x</sup>. Both alike

<sup>t</sup> Dissertations, i. 402: Prolegomena, iv. § x. 180.

<sup>v</sup> Page 84.

<sup>x</sup> Cf. Prolegomena, iv. 181.

must have been the Julian April 5. It adds to the coincidence, that as April 5 B. C. 4 Dom. Lett. E was the *feria septima*, reckoned by the Julian rule, and the *feria prima*, reckoned by the Primitive or Jewish, so was April 5 B. C. 1560 Dom. Lett. E also.

It may however be objected to this coincidence that, though we have assumed, we have not yet proved, that the true Julian date of the first Nisan, (the Abib of the Exodus,) was March 27. This must be admitted; and yet that the tenth of Nisan or Abib, in the true year of the Exodus, B. C. 1560, was actually the *feria septima* of the Hebdomadal cycle, is one of its characters which may be demonstrated of it, independently of any assumption of ours, from the actual character of the 15th or 22nd of the Jar of the Exodus, (the month next to the Abib,) made known by the testimony of Scripture itself in connection with the dispensation of Manna. For if the 15th or the 22nd of the Jar of the Exodus was *de facto* the *feria septima*, so must the 10th of the Abib or Nisan, just 35 days before the 15th, or just 42 days before the 22nd, have been also.

But with respect to this assumption itself, it may be shewn from the testimony of Scripture that, beginning with the day of the correction of the calendar, the 112th day in the course and succession of subsequent events is determinable to the day of the descent of Moses from Mount Sinai, at the end of the first period of 40 days, passed there; and consequently to the day of the erection of the Golden Calf. It is discoverable also from data of a different kind, of which an account will be given by and by, that, the stated date of one of the principal national festivals of the Egyptians of this æra and this epoch, that of the Natales Mneuidis, and the Panegyry of the waters, in the first year of the Mneuis cycle, was July 16; and the year of the Exodus, as I hope also to shew by and by, having coincided with the first year of a Mneuis cycle, and the calf itself, set up on this occasion, having been simply an image of the Mneuis, nothing could be more probable *a priori*, than that the day of the erection of this idol, in the first year of the Mneuis cycle, and in honour of the Mneuis, and the stated date of the Natales Mneuidis, and of the Panegyry of the waters, must have been coinciding; and



if so, all must have fallen this year on July 16. If so, the Julian date of the 112th day from the correction of the calendar, the day of the first descent of Moses from Mount Sinai, must have been July 16. Reckon then 111 days back from July 16 that year, and you come to March 27; or vice versa, reckon 111 days on from March 27 and you come to July 16.

Let us next go back from B. C. 1560 to B. C. 4001 A. M. 4, the end of the state of innocence, and of the æra of immortality, (as reckoned in the time of our own world, commensurable with it,) and the beginning of the æra of mortality as the actual law of human existence from the day of the Fall to the present day.

This being done accordingly, the first observation which may be made on the state of the case at this point of time is, that did we suppose the Jewish calendar of our Saviour's time, B. C. 4, or one like it, to have come into being A. M. 4 B. C. 4001, and the new moon of March B. C. 4001, and the new moon of March B. C. 4, both to be calculated for the same meridian, that of the ancient Jerusalem, and compared together, we should find a surprising similarity between them.

i. New moon of March B. C. 4001 <sup>y</sup>.

h. m. s.

Mean N. moon March 27 1 0 8 m. t.

True N. moon March 27 6 55 58.7 m. t.

ii. New moon of March B. C. 4 <sup>z</sup>.

h. m. s.

Mean N. moon March 27 9 54 49 m. t.

True N. moon March 27 5 54 9.5 m. t,

the former only 1 h. 1 m. 49.2 sec. of mean time later than the latter. It follows, that the first of this moon B. C. 4001 being called the first of Nisan, as much as the first of the same moon, B. C. 4, there could absolutely have been no difference between Nisan 10 B. C. 4001, and Nisan 10 B. C. 4. Each must have answered to the same Julian term, April 5, and each as completely as the other.

<sup>y</sup> Fasti. iv. 634.

<sup>z</sup> Fasti. iv. 636.

Now it appears to have been handed down in the Church by tradition<sup>a</sup> that, as the date of the Passion, which undid the effects of the Fall, was the *feria sexta*, so the date of the Fall, which entailed the necessity of that remedy, was the *feria sexta* also; and if we may assume that April 5 B. C. 4001 was the date of the Fall, as much as April 5 A. D. 30 the date of the Passion, it is just as certain that April 5 B. C. 4001 Dom. Lett. G F was the *feria sexta*, as that April 5 A. D. 30 Dom. Lett. F, was so too.

Suppose then this day, April 5, A. M. 4, B. C. 4001, to have been the date of the Fall—the date of the first act of Transgression, which put an end to the state of innocence, and to the Æra of immortality as the measure of human existence also—on that principle, it must have been the date of the judgment of all the parties concerned in that first act of transgression; and if it was the day of this judgment, it must also have been that of the promise of the future Seed. If so, we cannot fail to be struck by the coincidences thus brought to light; viz. that the very first promise of a Redeemer should have designated him even then, through the Lunar date of the day on which it was delivered, as the Lamb of the Exodus B. C. 1560, and the Lamb of the Nativity B. C. 4, and through the solar or Julian date of the same day, as the Lamb of the Passion A. D. 30.

Lastly, it is still to be observed, in reference to this subject, that as we come down with Scriptural history and the primitive calendar, from this date of the Fall, B. C. 4001, to that of the Exodus, B. C. 1560, other remarkable coincidences, distinctive of this day, April 5, above all others, and closely connected with the scheme and œconomy of Human Redemption, are very probably, if not certainly, discoverable.

As, i. There is reason to conclude that this day, April 5, A. M. 82, Thoth 1, Æra Cyc. 83—at that time also the *feria sexta*—was the date of the first sacrifice offered in Faith, (i. e. with a clear and distinct apprehension on the part of the offerer of the relation of sacrifice, as a positive appoint-

<sup>a</sup> Fasti, ii. 258, 259.

ment, to the great vicarious sacrifice of the Atonement)—the sacrifice of Abel, Gen. iv. 3–5<sup>b</sup>.

ii. There is reason in like manner to believe that this day, April 5, A. M. 2016, B. C. 1989, was the date of the fifth Manifestation of the Deity to Abraham, Gen. xv. 1–21, and of the Promise made to him at that time—the most solemn of all on record<sup>c</sup>.

iii. There is still more reason to believe that the date of the birth of Isaac, (the principal type of the promised seed, under the Patriarchal and the Mosaic dispensations<sup>d</sup>), was specially determined to this day, April 5, B. C. 1966—at that time also both the *feria septima* by the Julian rule, and the *feria prima* by the Primitive, like April 5, B. C. 4<sup>e</sup>. And there is equally reason to believe that this day, April 5, 33 years after, B. C. 1933, was the date of the sacrifice of Isaac, in the same capacity of the type of the promised seed—and on the *feria sexta* at that time, as much as that of our Saviour, in the year of the Passion, A. D. 30<sup>f</sup>.

SECTION XII.—*On the two Miracles of Scripture, the standing still of the sun in the time of Joshua, and the going back of the sun in the time of Hezekiah. Testimony of the three Witnesses.*

A great deal has been said by sceptical reasoners about the laws of nature, and the course of nature; and in order to get rid of the miraculous evidence by which the truth of the Mosaic or the Christian Dispensation is confirmed, it suits their purpose to represent these laws, once laid down, as so unchangeable, and this course, as a determinate series of antecedents and consequents, once originated, as so inviolable, that a suspension or change of the laws or the order of such a succession would be impossible—something which could never happen—and consequently which no testimony could render credible.

With respect to this reasoning and these assumptions in general—it does not enter into the plan of this present work to deal with any question, which it proposes to discuss, ex-

<sup>b</sup> Fasti, ii. 156–163.

<sup>c</sup> Ibid. 195.

<sup>d</sup> Ibid. 185 sqq.

<sup>e</sup> Ibid. ii. 202.

<sup>f</sup> Ibid. 202 sqq. cf. 257.

cept simply as one of fact. Granting therefore that a change or suspension of the laws of nature, or of the course of nature, is not an ordinary phenomenon, yet whether those laws and that course are absolutely immutable, we may justly contend, will be decided in the negative, if it can be made to appear that *one* instance at least of a change, a suspension, a variation of this kind, and one not the least remarkable *a priori* of all which might be imagined, has occurred *de facto* in time past, the effect of which is still existing, and still confirmed by the evidence of the fact. at the present day.

Among these supposed unchanged and unchangeable laws of nature. there is probably none which the sceptic, if challenged to specify that one of the number which answered most completely to his description of them, would be more likely to select than the law of the DIURNAL ROTATION—the constitution of Nature which carries a given line of points, all lying in the plain of the same great circle passing through the poles and the centre of the earth, from a given object in space called the MEAN SUN to this object again, after a certain interval of duration, measured by the period of 24 hours of mean solar time perpetually, and called in common language a Day and a Night.

This law, and the constant operation and effect of this law, among all the laws or constitutions of nature themselves, and their proper effects, might be the one principal type of uniformity, fixedness, invariability, not only in the opinion of the most competent among mankind to judge of such things, as men of science and astronomers in particular, but even in the opinion of Inspiration itself—which, when it would refer us to something the most immutable of its kind, appeals to *this*—"If ye can break my covenant of the day, and my covenant of the night, and that there should not be day and night in their season—<sup>g</sup>." The proper measure of this cycle, the period of 24 hours of mean solar time perpetually, reckoned from the absolute instant when our planet first received from its Maker the impulse of circumrotation, as I observed *supra*<sup>h</sup>, has probably served from that moment to the pre-

<sup>g</sup> Jeremiah, xxxiii. 20–25. cf. Job x. 5. xxvi. 10: Psalm lxxiv. 16. lxxxix. 29.

<sup>h</sup> Page 19.



sent, not only as the *natural* measure of its own existence, but as the *positive* measure of the existence of every other material world distinct from itself—if every other at least has been later than this in the order and time of its coming into being. Nay more, as I have also observed<sup>g</sup>, it has been purposely chosen as the measure even of the uncreated and underived existence of the Creator of all these worlds themselves, relatively to that of the oldest and most enduring of these creatures of his in general.

If then even this one of the primary and elementary laws of the material universe, the most comprehensive of all, and the most invariable of all, to go no further back in its history than the *Eisodus* into the land of Canaan, between that epoch and the present day, has not *once* only but *twice* been made the subject of a specific anomaly, followed by a corresponding effect—a permanent effect too, not a temporary one, as real at the present day, and destined to be as real at any future day which we can conceive of at present, as the very day on which it happened—if such an anomaly, and on such a subject, and with such an effect and consequence, as this, is upon record in Scripture, and is attested by the measures of time themselves, and by their relations *inter se*, before and after its occurrence—and is substantiated and authenticated by the tradition and testimony of integral divisions of mankind in all quarters of the world—the proof of our proposition, That *one* instance at least of the change or suspension of the laws of the material universe, one case of the interruption of the course of nature, one miracle in short, (and that one not the least improbable *a priori* of its kind,) the evidence of which is still as real, and as significant, as ever, has truly occurred, will be abundantly made out; and the honest and simple-minded inquirer into the grounds and reasons of the assent which he is bound to give to every thing which he reads of in Scripture, satisfied on such assurances as these, of the fact of *one* miracle at least, and that *one* miracle such a miracle as *this*, may rest secure in the implicit belief of every other, recorded in the Bible—none of them more extraordinary, nor more incredible *a priori* than this.

It will readily be understood that, when I speak of any such miraculous affection of one of the primary laws of nature, as this of the Diurnal Rotation, I mean the standing still of the sun in the time of Joshua, and the going back of the sun in the time of Hezekiah. Each of these extraordinary occurrences, as they stand on record in Scripture, was circumstantially considered in the first and second parts of these *Fasti* and *Origines*<sup>h</sup>; with reference too to their substantiation by each of the sources and kinds of proof—the use and application of which, over and above the testimony of Scripture, to such questions as these I am endeavouring to illustrate at present—the natural measures of time, the primitive calendar, and national tradition. In our reference then to these subjects again, it must be our business merely to recapitulate these several proofs,—as distinctly indeed, but as briefly, as possible.

To begin then with the Testimony of Scripture; and i. to the standing still of the sun in the time of Joshua.

i. Assuming that the year of the event itself was the year of the *Eisodus*, and the year of the *Eisodus* was B. C. 1520, it has been shewn<sup>i</sup>, or it may be shewn, that the day of the event, inferentially discoverable from the Scripture account—later than the passage of the Jordan, on the tenth of the first month, March 26—later than the circumcision of the people at Gilgal—later than the first Passover, kept in the land of Canaan, which, from the necessity of the case in this instance must have been that of the second month, on or about April 29—later than the seven days compassing of Jericho—later than the capture of Jericho—later than the destruction of Ai—later than the recitation of the Law—the 6th of the third month, May 20 or 21—later than the covenant with the Gibeonites—later than the march to Gibeon—later than all these incidents and more besides,—could not possibly have been earlier in its proper order of time than some day towards the end of the month of May.

ii. It has been shewn<sup>k</sup>, from the particulars recorded in Scripture, before and after the battle of Gibcon, especially from the fact of the march to Gibeon from Gilgal by night,

<sup>h</sup> *Fasti Cath.* i. 237–383 : iv. 554–622. *Origg. Kal. Ital.* ii. 518–530.

<sup>i</sup> *Fasti*, i. 251–276.

<sup>k</sup> i. 261–263.

before the battle, and that of the six days' operations, (including the battle on the first day,) continuously related after the battle. but no more—that Joshua must have received the message of the Gibeonites *on* the Sabbath, and must have marched to their assistance, as soon as the Sabbath was over, on the *evening* of the first day of the week—and the six days' operations, the account of which follows without interruption, from the day of the battle to the sixth day after inclusive, must have been those of these six days, from the end of the Sabbath of the preceding week, to the eve of the Sabbath, next in order to it.

iii. It has also been shewn<sup>l</sup>, that as moonlight would obviously have been requisite, (or at least obviously must have been desirable,) for a march like this from Gilgal to Gibeon by night, so, if the march was actually made—as we have concluded it must have been—towards the end of May, B. C. 1520, the moon was at the full in that month in that year, on the 30th of May—about 3.30 P. M. It has been shewn too that May 30, the day of the full moon, this year B. C. 1520, Dom. Lett. D, was the *feria septima* or Sabbath; and if the march from Gilgal to Gibeon was actually made on the evening of this day, after the expiration of the Sabbath, between May 30 at 18 h. and May 31 at 18 h. it was actually made on the *feria prima*, according to the primitive rule.

iv. The distance from Gilgal to Gibeon having been fifteen Roman miles at least, it has been shewn<sup>m</sup> that, to make such a march by night, with an army so numerous as that which went up with Joshua on this occasion, expecting to encounter an enemy as soon as they arrived at Gibeon, and therefore proceeding in good order and leisurely all the way—even with the benefit of moonlight—would require nine or ten hours of noctidiurnal time at least; and therefore, even if begun within an hour of the expiration of the sabbatic rest, May 30, could not have been completed much before the end of the *eleventh* hour of the night, May 31—which, for the climate of Judæa, and the latitude of Jerusalem, that year and that day, would be between 3 A. M. and 4 A. M.—an hour and an half, or an hour and a quarter, before *sunrise*, and

<sup>l</sup> Fasti, i. 259 : iv. 557.

<sup>m</sup> Ibid. 251-259. 266, 267 : iv. 588. 597.

consequently just about the break of day—the most likely time to have been selected under any circumstances, for coming on an enemy in the morning, and by surprise.

v. The battle under the walls of Gibeon being assumed to have begun, May 31, about *this* time; when it was over, as a contest in the field, and nothing remained, in order to complete the success of the day, except the pursuit, and the destruction of the fugitives; it has been shewn that, as the command to the sun, followed by the miracle of this day, appeared to have been given by Joshua just at this time—just as the contest for victory was over, and the pursuit of the routed enemy was about to begin—so the motive to the command, (which Scripture itself attributes to the impulse of Joshua's own will,) was probably that which under such circumstances was *a priori* to have been expected, viz. a desire, on the part of Joshua, to lengthen the morning of the day just setting in with the beginning of the pursuit—i. e. to lengthen the period of the day, in such a climate as that of Judæa, and in such a month as the month of May, and on a day so near to midsummer itself, B. C. 1520, as May 31—the most favourable for pursuit, for the very purpose of this pursuit—which he foresaw would last through the greater part of the day. And if the Deity was pleased to give effect even to such a command, and as so originated in the impulse of the will of a man, it was, as Scripture itself accounts for it, because God *fought for Israel*, and did that for Joshua by his Almighty Power, which Joshua, had he been able, under such circumstances, would have done for himself<sup>n</sup>.

vii. The command to the sun then having been given, just as the morning of the day was about to begin, and the morning, properly so called, being necessarily dated with sunrise; the command, on this supposition, must have been given about sunrise—which, at this time of the year, B. C. 1520, and for the latitude of Jerusalem, would be as nearly as possible 5 A. M. mean time. And that, if Joshua came upon the enemy an hour and an half, or even less, before sunrise, and none of them, as he was assured<sup>o</sup> before he set out on his march against them from Gilgal, was destined to stand before him—we should thus allow sufficient time for the discomfi-

<sup>n</sup> Fasti, i. 279, 281.

<sup>o</sup> x. 8.



ture and rout of the besieging army—requires no proof. But, that the command to the sun was given, and the effect which followed upon it, did take place, as the morning of the day was setting in, may be inferred from various considerations—i. From the specific description of the *addition* made to the *length* of the *day* on this occasion, which Scripture itself limits to that of a *perfect* day—and the true definition and meaning of a perfect day in the idiom of Scripture—i. e. an equinoctial day—a day neither more nor less than the half of the period of 24 hours, neither more nor less than 12 hours of mean solar time in length. ii. From the final end of the anomaly of this day itself; viz. not to confound, for this time and this occasion, the stated succession and distinction of morning and evening in the reckoning of the parts of the noctidiurnal cycle in general, (such as had always been the case from the first until then,) but simply to lengthen out the morning of this particular cycle, to add 12 hours of mean solar time to the morning half of this one *νυχθήμερον*, still reckoned, according to the primitive rule, from May 30 at 18 hours to May 31 at 18 hours. For which purpose, it is evident, no period of this *νυχθήμερον* could have been so appropriate *a priori*, as the moment of sunrise itself—the proper beginning of the morning half of the Noctidiurnal cycle, at all times of the year alike. iii. From the extent of the distance from Gibeon, over which the pursuit of this day as such is seen to have carried Joshua and his followers, between the time of this command to the sun, followed by its standing still, and the time when it began to move again; i. e. in one direction as far as Makkedah and Azekah, sixteen Roman miles from Gibeon at least, in another as far as Bethhoron, ten Roman miles from Gibeon<sup>q</sup>; neither of which, and especially the former, could have been traversed by an army in much less than 12 hours' time—so that if the sun began to be motionless while they were still under the walls of Gibeon, and began to move again when they were now at Makkedah and Azekah, it must have stood still 12 hours.

ii. With the Testimony of Scripture to the going back of the sun, in the time of Hezekiah.

i. It has been shewn<sup>r</sup> that, if an anomaly, like that of

p Appendix, note T.

q Fasti, i. 267-276.

r Ibid. 276-283.

which I have just given an account, affecting the decursus of the simplest and most elementary of the natural measures of time, by the addition of 12 hours to its ordinary length, for any sufficient reason had once been permitted, that fact alone would be competent to raise the expectation *a priori* that another anomaly, of the same kind and to the same extent, would be found to have been some time or other again permitted, if for no other reason, yet for *this*, of restoring the proportion of the mean and the actual noctidiurnal cycle, one to the other, to the same absolute or relative equality, after the occurrence of the first of these anomalies, as before.

It has been shewn accordingly<sup>s</sup> that the first idea of this second miracle did not originate with Hezekiah, as that of the first may be said to have done with Joshua—that the miracle was proposed to him by the Deity himself, as one of two alternatives, between which he was expected to make his choice—and therefore that, while serving one purpose with respect to Hezekiah, as the sign and seal of the promise of his recovery, and of the addition to the length of his life, it might still have answered another also, contemplated by the Author of the miracle himself, in restoring the relations of mean and actual noctidiurnal time to their proper proportion *inter se* from the first.

If this however was the true moving cause of the second miracle—i. e. if it is ultimately to be resolved into the occurrence of a similar anomaly once before—it was to be expected *a priori*, that, as the peculiar œconomy of the former miracle had consisted in the addition of 12 hours of mean time, for the proper meridian, to the morning half of the noctidiurnal cycle, that of this second would be found to consist in the addition of 12 hours of mean time for the same meridian, to the proper evening half.

ii. This conclusion, it has been shewn<sup>t</sup> from the circumstantial consideration of the particulars of the second miracle, is confirmed by the facts of the case. For ist, the *Maaloth*, steps or degrees of the sun, steps or degrees of the dial, in

<sup>s</sup> Fasti, loc. cit.

<sup>t</sup> Ibid. i. 283–291.

the recession of the shadow over ten of which the essence of the miracle was to consist, having been, as it was shewn<sup>t</sup>, intended of so many hours of diurnal Kairic time, analogous to the spaces traversed by the shadow of the guomon on the plane of the sundial in each respectively, it was necessarily to be inferred from this fact that the season of the miracle, now about to take place, relatively to the natural year, must have been that, when *ten* hours of Kairic time, for the climate of Judæa, were more or less the same with *twelve* of mean. And though it must be admitted<sup>v</sup> that, for this climate in particular, that could never be strictly the case, not even at the summer solstice itself, this difficulty, in the present instance, was easy to be obviated—by understanding the proposed measure of the Recession, agreeably to the idiom of Scripture—(whereby a round number is sometimes put for that number and something more<sup>x</sup>—) though not of anything less than ten of these maalo<sup>th</sup> of the dial, yet possibly of something, even a third part, of one more<sup>y</sup>.

ii. With respect to the *year* of this second miracle, the testimony of Scripture itself, it was shewn<sup>z</sup>, determined it to the middle year of the reign of Hezekiah; and the true chronology of the reign of Hezekiah, as bearing date from the month of Tebeth or December B.C. 725, determined the middle of his reign (29 years in all)—14½ from the beginning and 14½ before the end—to the end of the month of Jar or May, B. C. 710.

iii. And hence, it was easy to approximate to the *day* of the miracle, both in the calendar of the time being, and in the Julian—first generally, as some day of the second month in the Sacred calendar, B.C. 710, Period iii, Cycle xii. 4<sup>a</sup>, May 2—June 1—that year; secondly, and more particularly, i. From the character of the day, specified by the Scriptural account itself—the third, before some day of stated resort to the Temple—(three days before it, according to the idiom of Scripture, inclusive of both extremes, two, exclusive of the first—) which, for the month of Jar, could have been only the new moon of that month, or one of the Sabbaths; and if,

<sup>t</sup> Fasti, i. 283–291.

<sup>v</sup> Ibid. i. 296.

<sup>x</sup> Appendix, note V.

<sup>y</sup> Fasti, i. 294–297.

<sup>z</sup> Ibid. i. 289.

<sup>a</sup> Prolegomena, page xliii.

under the circumstances of the case, it could not have been the former, it must have been the latter. iii. From the great *a priori* probability that, if the miracle about to be wrought on this day was simply the counterpart, the continuation or complement, of that which had been wrought in the time of Joshua, among the other points of resemblance in their respective circumstances, one would be found to be this; viz. That the actual day of the former and the actual day of the latter, as both referrible to the same calendar like the Proleptical Julian, were the same; and consequently, that if the Julian date of the day of the first miracle in its proper year was May 31, that of this second one in its proper year would be found to have been May 31 also.

iv. This very reasonable presumption of what the true Julian date of the day of the second miracle was likely to be, was confirmed by the meeting together of all the characters of the actual day, previously collected from the testimony of Scripture, or from the reason of things, in this one Julian day, May 31, B.C. 710<sup>b</sup>. i. In the date of sunrise, for the latitude of Jerusalem, *this* day; true sunrise May 31, at 5 h. 6 m. 25.2666 sec. apparent time, apparent sunrise, May 31, at 5 h. 4 m. 13.2666; and in the length of the diurnal hour in Kairic time, thence deducible, 1 h. 9 m. 17.789 sec., ten of which were only 27 minutes 2 sec. less than 12 hours of mean time—and in the precise time consequently of the miracle, a third part of one of these Maaloth past the point of the xiith hour in apparent time, yet May 31, at 18 h. or 6 P.M. mean time for the meridian of Jerusalem<sup>c</sup>. ii. In the calendar date of this day, May 31, for the time being, Jar 30, Per. iii. xii. 4, and the Hebdomadal character both of Jar 30 and of May 31, B.C. 710, Dom. Lett. G, as the *feria quinta*—the *third* day<sup>d</sup>, according to the idiom of Scripture, before the next sabbath, Sivan 2, June 2, but only the day before the next new moon, Sivan 1, June 1, which could not have been reckoned, even in Scripture, the *third* day from that of the miracle<sup>d</sup>.

v. The date of the first miracle then having been May 31, at 5 A.M. mean time for the meridian of Jerusalem, B.C. 1520,

<sup>b</sup> Fasti, i. 291.

<sup>c</sup> Ibid. i. 295; iv. 598, 599.

<sup>d</sup> Ibid. i. 288.



and that of the second, May 31, at 6 p. m. mean time for the same meridian—with respect to the œconomy of the miracle on each occasion—it has been shewn<sup>e</sup> that the *modus operandi* of the miracle in the first instance was the suspension indeed of the law of the Diurnal Rotation, but not the substitution of any other for the time in its stead,—and so far it was a simple uncomplicated process of its kind. The mode of the miracle in the second instance was, First, the stoppage of the Diurnal Rotation from west to east. Secondly, the substitution for it of a contrary motion from east to west, and as a consequence of that, the replacement of all meridians under the sun, 180 degrees from west to east. Thirdly, as soon as this effect had been produced, the stoppage of this motion from east to west too, and the restoration of the Diurnal Rotation from west to east, according to its own law, as before. Fourthly and lastly, all this, in the case of the second miracle, instantaneously done—an instantaneous stopping—an instantaneous reversion—an instantaneous restoration—of the Diurnal Rotation—with no appreciable interval between the beginning and the end of the process—with nothing to attest it to the senses or to the reason of the contemporaries of it in Judæa, but the appearance of the sun, just before, in a certain position relatively to the horizon in the west, and its appearance, all in a moment afterwards, 180 degrees removed from that position in the east<sup>f</sup>.

How much must have been involved even in the simple, but instantaneous, suspension of the motion of the earth round its own axis, on the first occasion, of which nevertheless nothing either in the earth, or on the earth, was conscious at the time, I leave it to the physical astronomer to say<sup>g</sup>. How much more of the same kind, of which notwithstanding no living or sentient thing in or upon the earth was made aware by the effect produced, must have been included in the second, common sense alone, without any knowledge of physical astronomy, or any profound acquaintance with the constitution of the material universe, with a little reflection, is competent to form something like an idea. It is

<sup>e</sup> Fasti, i. 301, 302 : iv. 588 sqq.

<sup>f</sup> Ibid. i. 297–302.

<sup>g</sup> Appendix, note X.

evident therefore that, as a demonstrative proof of the absolute subjection of the laws of matter to the Will of the Creator of that matter, and the Author of those laws—that they are what they are, only as the expressions and energies of that Will—that they continue what they are only so long as that Will still chooses they shall—and that they operate as they operate only in the way and to the extent in which and to which that Will prescribes and empowers them perpetually—the second miracle is *unum instar omnium*, and supplies an unanswerable argument of the possibility of every other miracle, recorded in Scripture, as simply the effect of the same Will and the same Power, which produced these two miracles, and more especially the second—yet affecting the laws of matter, the course of nature, the constitution of the universe, on a scale and to an extent incomparably less even to our apprehensions than either of these anomalies, and especially the second.

Let us pass next to the testimony of the Primitive Calendar—and to the impress or mark of its own reality which either of those miraculous occurrences may have left on the civil reckoning of its own time.

i. A very curious and interesting monument of antiquity is still extant among the remains of Johannes Lydus, or John of Philadelphia, in Proconsular Asia, who flourished in the reigns of the three Roman emperors Anastasius, Justin, and Justinian,—which he himself entitles the Calendar of a certain Claudius, and professes to have translated out of its own language, whatsoever that was, into Greek <sup>h</sup>.

With respect to the author of this Calendar—though nothing is known of him at present beyond what may be inferred from this translation of his work by Lydus, I have shewn that, from his style in Lydus, Κλαύδιος ὁ Θούσκος, not Κλαύδιος Θούσκος, his proper denomination must have been Claudius the Tuscan, not Claudius Tuscus, and therefore he must have been a native of the ancient Tuscia or Etruria<sup>i</sup>.

With respect to the materials of his Calendar, according to his own account of them, reported by Lydus, they were

<sup>h</sup> Orig. Kal. Italice, ii. 460-530.

<sup>i</sup> Ibid. ii. 460. 463-561.

the data recorded in the temples of the Etrurians—and that would be consistent with the nationality of the compiler of the Calendar himself, if he too was an Etruscan. And it may be collected even from the compilation itself, that its author must have been more interested in the records of the ancient Etrurians, than in the antiquities of any other of the nations of ancient Italy—because, of the Five Types of the Nundinal Correction, peculiar to these nations in general, none are noticed in this compilation, under their proper distinctive characters, except the two, (the fourth and the fifth,) which were confined to the ancient Etrurians<sup>k</sup>.

With regard to the antiquity of the compilation, to say nothing of the date of the translation of it, which, as I have explained, was made some time in the reign of Anastasius, Justin, or Justinian, (A. D. 491—565,) it resolves itself into two questions, That of the age of Claudius and the date of his Calendar itself, and That of the date of his materials, the antiquity of the records from which he compiled it. With respect to the first of these questions, it has been shewn<sup>l</sup> from the internal evidence of the calendar itself, that it must have been put together by its author A. D. 51—52. It is adapted at least to A. D. 51—52. With regard to the second, it has been shewn<sup>m</sup> that, among the entries discoverable in the Calendar, one is the epoch of the lunar Ecliptic cycle, called the Saros or Exeligmus, peculiar to the Etruscans—borrowed indeed from the Chaldaic Saros of the same kind, but attached among them to Sept. 25 B. C. 619. Another is the epoch of this Chaldee cycle of the same kind itself, August 11 B. C. 794. It is an obvious inference from the first of these entries, that the data of a compilation which included that, must have gone back to B. C. 619, and from the second, that they could not have stopped short of B. C. 794. It has been shewn too<sup>n</sup> that it recognises also the Hebdomadal cycle under the planetary names of its *feriæ*; and that is a proof that some of its data must have been as old as B. C. 798 at least. It recognises likewise the fable of the Phoenix<sup>n</sup>, and the change in the

<sup>k</sup> *Origg. Kal. Ital.* ii. 530.

<sup>m</sup> *Ibid.* ii. 480.

<sup>l</sup> *Ibid.* 490-492. et 465-479.

<sup>n</sup> *Ibid.* ii. 490-492. 492-508.

Period of the Phœnix cycle, first made in Egypt in B. C. 798 also. But the clearest and most decisive proof of the scope and comprehension of the whole compilation, and the absolute antiquity of its materials, is the cycle of what it calls the "Ἀστρον κρυπτόν", a cycle of twelve terms, answering to a distinction of *twelve* days, founded on the essential relations of equable cyclical and equable Nabonassarian time, before a certain period, and necessarily generated in the decursus of both together through twelve such periods as those of my Fasti<sup>p</sup>; from which it may be certainly inferred that, though the actual date of the calendar, as compiled by Claudius, was A. D. 51—52, the absolute scope and comprehension of the collection, in the decursus of equable time of both kinds, was neither more nor less than the interval from Thoth 1, Æra cyc. 2574, August 10 B. C. 1433 to Thoth 1 Nab. 800, August 10 A. D. 51<sup>q</sup>.

ii. These observations having been premised, I observe that in this calendar, and under the head of Pridie nonas Augusti, an entry occurs to this effect<sup>r</sup>:

Ἐν τῷ διημέρῳ τούτῳ ὁ ἥλιος μίαν μοῖραν κρατεῖ—

the literal meaning of which is, "In this double day the sun occupies one degree." And from this it is an obvious inference that this day, Pridie nonas Augusti, for some reason or other, must have been recognised as a *double* day—as *one* day equivalent to *two*, as *one* day as long as *two*—and yet though a *double* day of this kind, as one in which the sun occupied only the ordinary space of *one* day—the sun moved only at the rate, and to the extent, of his motion in *one* day. And it has been shewn<sup>r</sup> that such must have been the phenomenon sensibly at least exhibited by the effect of the miracle in the time of Joshua; that of one day made as long apparently as two days, in which notwithstanding the sun moved over no more of its regular course in the heavens, than it ordinarily did in one day. Consequently, that a character like this could have gone down to posterity, attached to no day in the calendar of the time being, but that of the first miracle. And it has been shewn<sup>s</sup> that, even if the day of the

<sup>o</sup> Origg. Kal. Ital. ii. 509–517.

<sup>p</sup> Cf. Origg. Kal. Hell. i. Prolegomena, clxi.

<sup>q</sup> Origg. Kal. Ital. ii. 509–517.

<sup>r</sup> Ibid. ii. 518.

<sup>s</sup> Ibid. ii. 523.



miracle *did* go down to posterity in the calendar of the time being, so characterized, yet when the equable calendar, to which it was consigned at first, passed into the Julian, (as it did every where, sooner or later,) the character of the equable date of this day would be transferred to the Julian, which was corresponding to it at the time, and the traditionary character of the day of the miracle, before attached to its equable date perpetually, from this time forward would be attached to the Julian, corresponding to it, in its stead.

Let us then proceed to inquire into this equable date of the first miracle.

*Scheme of the Equable Calendar,*  
Æra cyclica 2486, B. C. 1521—1520.

		Midn	B. C.			Midn.	B. C.
i	Thoth 1	Aug. 31	1521	vi	Mecheir 1	Jan. 28	1520
ii	Phaophi 1	Sept. 30		vii	Phamenoth 1	Feb. 27	
iii	Chœac 1	Oct. 30		viii	Pharmuthi 1	March 29	
iv	Athyr 1	Nov. 29		ix	Pachon 1	April 28	
v	Tybi 1	Dec. 29		x	Paüni 1	May 28	

x Paüni 4, May 31.

From which it appears that, if May 31 B. C. 1520 was the true Julian date of the first miracle, Paüni 4 (the 4th of the 10th month) of the same æra must have been the true equable date.

Let us next inquire into the true Julian meaning of this Roman date in the Calendar of Claudius, Pridie nonas Augusti. Pridie nonas Augusti in the Roman style indeed never denoted any thing but August 4 Roman. August 4 Roman however did not always denote August 4 Julian. And in fact it has been shewn<sup>†</sup> that the date of this compilation of Claudius' having been A. D. 51—52, both for those two years, and for some years before and after them, the proportion of the Roman Kalends of the time being to the Julian was such, that January 1 Roman denoted January 2 Julian, and every other term in the Calendar for the time being denoted a corresponding Julian term, one number higher in the proper Julian notation. On this principle the

<sup>†</sup> Origg. Kal. Ital. iv. 142 sqq.

true Julian style of *Pridie nonas Augusti* in this calendar of Claudius was August 5, not August 4, A. D. 51.

The proper Julian term therefore which succeeded some time or other among the Etrurians to the traditionary character of the equable date of the first miracle, *Paüni 4*, must have been August 5; and the time when this Julian term acquired that character must have been some time when *Paüni 4* in the equable style was falling on August 5 in the Julian. And the last instance of any such coincidence as that between the virtual epoch of the compilation of Claudius, B. C. 1434, and its actual one, A. D. 51—52, having been B. C. 286—282; though we have no proof from testimony of an actual correction of the equable calendar among the Etrurians at this time, yet neither have we any to the contrary. And we know too little of their history either at this or at any former period, to make the mere absence of positive testimony to the fact of such a correction any insuperable objection to its probability, much less to its possibility.

But this is not all. Another entry is discoverable in this calendar, attached to the *Kalends of April*:

Καλένδαις Ἀπριλίαις . . . καὶ ὁ ἥλιος μίαν προστίθῃσι μοῖραν<sup>v</sup>—

the *prima facie* meaning of which is, that, on this day, the *Kalends of April*, the sun, for some reason or other, doubled the usual extent of its diurnal movement—the sun moved through two degrees, instead of one. This character of the day therefore is apparently the very reverse of that which we have just been considering. Before, the sun was supposed to move only through the space of one day's motion in a day as long as two. Here it is supposed to move through the space of two days' motion in one day only.

And yet, as it has been shewn<sup>x</sup>, even this mode of describing the phenomena of the second miracle, when the sun was seen to repeat exactly the same movement in space—through the next twelve hours after the miracle—which it had previously described once in the last twelve before it, was one under which it was very likely *a priori* to go down

<sup>v</sup> Origg. Kal. Ital. ii. 518.

<sup>x</sup> Ibid. 519.

to posterity. And that being assumed, it is a natural inference from it, that this character, attached to the Kalends of Aprilis in this calendar of Claudius, does as probably mark and designate the Julian representative of the equable date of the second miracle, among the Etrurians, as the former, attached to Pridie nonas Augusti, did the Julian style of the equable date of the first. Let us therefore inquire into this equable date of the second miracle.

Æra Cyclica 3297, Nab. 38, B. C. 710.

		Midn.	B. C.			Midn.
i	Thoth	1	Feb. 17	710	iii	Athyr 1
ii	Phaophi	1	March 19		iv	Chœac 1
						April 18
						May 18

iv Chœac 14, May 31 at midn.

Hence, if May 31 B. C. 710 was truly the Julian date of the second miracle, the 14th of the fourth month of the Primitive equable calendar, the 14th of the Primitive Chœac, must have been just as truly the equable date of the time being. And the Kalends of April Roman in this instance also denoting April 2 Julian, nothing is necessary, to explain the occurrence of this Julian term April 2, in a Julian calendar like this of Claudius, compiled A. D. 51–52, with such a character attached to it, except to suppose that this was the Julian term, which was representing Chœac 14th, the traditional date of the second miracle in the equable style, when the equable calendar itself passed into the Julian. And if we go back in search of the last coincidence of this kind before A. D. 51–52, we find it in Æra Cyclica 3538, Nab. 279, B. C. 470; and I have produced proof<sup>y</sup> that, at or about *this* time, an actual correction of the equable calendar, among the Etrurians, by some form or other of the Julian, *a priori* could not be considered an improbable contingency.

iii. But neither is this all. The calendar of Columella is a compilation of the same kind in general as that of Claudius; and I have had occasion to give a particular account of that too%. And though it appears from this that there are

<sup>y</sup> Orig. Kal. Ital. ii. 642. cf. 534 sqq.  
also, Orig. Kal. Hell. i. 450. 464.

<sup>z</sup> Ibid. ii. 465. cf. iv. 143 sqq. :

many minute and circumstantial coincidences between these two compilations, and their respective authors must have been contemporaries, yet, as the sources or data of either, according to its own testimony, were totally different from those of the other, (Chandius', the records in the temples of the Etrurians, Columella's, the Greek Parapegmata, especially that of Meton and Eudoxus,) neither of them could have been derived from the other.

Now in this calendar also an entry occurs, attached to the Kalends of May <sup>a</sup>—

Hoc biduo sol unam dicitur tenere particulam—

the *prima facie* construction of which too is, that while this day, the Kalends of May, in some sense or other was a double day, the sun, in the space of this double day, for some reason or other, moved over no more than one degree, no more than one day's motion. And it has been shewn<sup>a</sup> that this too would be one of the external or sensible characteristics of the day of the second miracle; and perhaps the most likely of all to descend to posterity, because the most agreeable to the truth of all; viz. that though the day of the miracle was rendered thereby really as long as *two*, yet the space actually described by the sun on that day was only the proper space of *one* day; the fact being that, as the sun was set back 12 hours, just at the end of this day's motion, the proper space of that one day had to be described over again, but nothing more, in the same time at least, in addition to it.

Now the date of this calendar also having been A. D. 48–49<sup>b</sup>, and the proportion of the Roman to the Julian Kalends at that time, and for some years before and after, having been that of the first to the second of the month of the same denomination, the Kalends of May Roman at this time must have answered to May 2 Julian. And the sources of this compilation having been the data supplied by the Greek Parapegmata, and especially those of the calendar of Meton, nothing could be more probable *a priori* than the assumption that this entry in particular must have been transferred to the calendar of Columella, from that of Meton; nor yet, that,

<sup>a</sup> Origg. Kall. Ital. ii. 526–530.

<sup>b</sup> Ibid. iv. 143 sqq.



if it was to be traced to something of the same kind in the calendar of Meton, it was to be traced from the calendar of Meton itself ultimately to the older correction and calendar of Solon. Assuming therefore that the traditionary date of the second miracle in the equable style was Chœac 14 among the ancient Greeks as much as among the ancient Etrurians, let us inquire first of all into the Julian date of Chœac 14 in the year of the correction of Solon.

*Scheme of the first four months in the Equable Calendar, Æra Cyc. 3415, B. C. 592.*

---

		Midn.			Midn.
i	Thoth	1	Jan. 19	iii	Athyr 1
ii	Phaophi	1	Feb. 18	iv	Chœac 1
					March 20
					April 19

---

iv Chœac 14 May 2.

It thus appears that the actual Julian style of Chœac 14 at this time was May 2.

Let us next inquire into the relation of this Julian term May 2 B. C. 592 to the correction of Solon.

*Octaëteric Correction of Solon, Per. i. Cyc. i. 1. B. C. 592.*

---

		Midn.			Midn.
i	Gamelion	29	Jan. 19	iii	Elaphebolion 29
ii	Anthesterion	30	Feb. 17	iv	Munychion 30
					March 19
					April 17

---

iv Munychion 16 May 2.

It thus appears that the traditionary equable date of the second miracle in the first year of the correction of Solon, and in the style of his correction, must have been Munychion 16. In this form, and under that name, might it have been transferred from the calendar of Solon to that of Meton B. C. 432, and from the calendar of Meton to that of Columella, A. D. 48-49, even if it was not taken by Columella directly from the calendar of Solon itself. And yet that was evidently possible; insomuch as A. D. 49, the date of his own compilation, and Cycle lxxxi. 1. of the correction of Solon, supposed to have continued unchanged down to this time, were the same, and the stated Attic and Julian date of the

miracle in the correction of Solon, Cycle lxxx. 1, A. D. 49, and Cycle i. 1, B. C. 592, must have been the same, Munychion 16, May 2, in both alike.

iv. But even this is not the whole of the testimony, discoverable even at present, which the primitive calendar is competent to render to the fact of this second miracle. It has been shewn<sup>c</sup>, that one of the eclipses of the sun, recorded among the Chinese, in the Tchuntsicou of Confucius, described in that compilation as an ecliptic conjunction in the seventh month of a calendar, which it styles the *Royal Calendar*, but characterised also by the particular coincidence of its having fallen out on the 29th *feria* of the Sexagesimal cycle, (the Chinese name of which was Gintchin,) was in reality the solar and lunar conjunction of the day of the second miracle, Chœac 14, Æra Cyc. 3297, Nab. 38—May 31, B. C. 710—which actually fell that year on the *feria* Gintchin of the sixty days' cycle of the Chinese. And though this conjunction of May 31, B. C. 710, certainly was not ecliptic, there was one in the month of March, last before it, which was so<sup>d</sup>. And this conjunction itself having been distinguished by so remarkable an affection of the sun, as that of this day, May 31, (especially for the meridian of Pekin in China,) of which something more will be said by and by, it was liable *a priori* to be represented among the Chinese in the course of time as a conjunction, characterised by an extraordinary eclipse of the sun. And in fact, as I have also shewn<sup>e</sup>, such a misrepresentation as this of the actual phenomenon of this day, May 31, B. C. 710, is the true explanation of the famous eclipse of Hi and Ho, which makes such a figure in Chinese astronomy, and has given so much trouble to modern chronologers, in their hitherto unavailing and bootless attempts to find and to verify it<sup>f</sup>.

iii. I shall now pass to the attestation, if not the confirmation, of the same two great Scriptural facts by testimony *ab extra*; and i. By that of tradition.

i. The fact of both miracles is attested in this manner, as I have shewn<sup>g</sup>, by the Egyptian tradition, recorded by Hero-

<sup>c</sup> Fasti, i. 365-372.

<sup>d</sup> Ibid. 372.

<sup>e</sup> Ibid. 377: iv. 617.

<sup>f</sup> Cf. Ibid. i. 383 n.

<sup>g</sup> Ibid. i. 327.

dotus; That within such and such limits of time, the sun had been known twice to have risen where it was accustomed to set, and twice to have set where it was accustomed to rise. For this was simply the external or apparent phenomenon which characterised these two days, May 31 B. C. 1520, and May 31 B. C. 710, respectively, with no more of misrepresentation of the real state of the case on each occasion than was easy to be accounted for, by the interval between the date even of the second miracle and the time of Herodotus, and by the tendency of tradition itself to assimilate two such anomalies in the usual phenomena of the rising and the setting of the sun, as these.

ii. The fact of the second miracle is attested by the tradition of the Troglodytes, bordering on Egypt, recorded by Solinus<sup>h</sup>, that the sun had once risen where it was wont to set—for that too was simply the phenomenon of the second miracle, or what might easily come to be represented by tradition, as that phenomenon—May 31 B. C. 710.

iii. The fact of the second miracle also is attested by the tradition, among the Greeks, referred to in Plato<sup>i</sup>, of a recession of the stars, on a large scale, from west to east, some time or other known or supposed to have happened. For that was simply the apparent phenomenon of May 31 B. C. 710 itself, without exaggeration or misrepresentation of any kind—if at least the heavens were reversed at that time, 180 degrees from west to east.

iv. This fact of the second miracle, again, is attested even by the going back of the sun, in the tragic drama of the Greeks—connected as it is even there with the banquet of Thyestes. The banquet of Thyestes, as I have shewn<sup>k</sup>, was a pure and simple fiction of the later Greek poets; but the going back of the sun as the supposed effect of that banquet, if the second miracle really happened, even though connected with this banquet, is not to be treated as a fable too—on that account. The only question which should arise under such circumstances is, How it might have happened that a real phenomenon of this extraordinary kind, and a fictitious banquet, however extraordinary too, might have

<sup>h</sup> Fasti, i. 333, 334.

<sup>i</sup> Ibid. 343 n.

<sup>k</sup> Ibid. 334.

come to be arbitrarily connected? and by whom first, and when? I have shewn that though the fable of the banquet was known to Æschylus, the oldest of the Greek tragedians, the going back of the sun, as a concomitant circumstance of it, was not; and that, in fact, the first of the Greek dramatists, who joined both together, for any thing which is known to the contrary at present, was Euripides. And that in so joining them together even Euripides was merely connecting an older historical tradition with a dramatic fiction of comparatively recent date—for the purpose of stage effect—may be fairly inferred from the date which he himself assigns it, even as so connected—that of the heliacal rising of the Pleiads<sup>1</sup>; which in the Parapegmata of his time differed only accidentally from the traditionary date of the miracle itself. The former date in the calendar of Meton was May 6—the latter, as we have seen, was May 2.

ii. By the change of the rule of the noctidiurnal cycle in various quarters—as the effect of the second miracle.

With respect however to the nature of such an argument of the truth of either of the miracles as this, it must be observed first of all, that the original rule of the noctidiurnal cycle every where having been to reckon it from sunset to sunset<sup>m</sup>, and the cycle itself being every where divided between an evening half, and a morning half, nominally in Kairic time equal to each other at all seasons of the year—and such being still the case at the time of the first miracle, B. C. 1520—it does not appear that the occurrence even of such an anomaly, as that on the first occasion, was calculated *a priori* to disturb the preexisting rule of the cycle in the least degree; insomuch as it made no sensible difference in the epochs of its two halves respectively, but left every thing apparently just in the same state, and in the same relation *inter se*, as before.

But with regard to the second, B. C. 710, the first and most obvious effect of the anomaly, then and there produced, must have been to confound the preexisting distinction of the parts of the Noctidiurnal cycle, by turning the evening half, for every meridian 180 degrees east of that of Jerusalem, more or less completely into the morning half, and

<sup>1</sup> Fasti, i. 341–343.

<sup>m</sup> Ibid. 143–218.



the morning half, for every meridian 180 degrees west of it, more or less completely into the evening half. And that was very likely both *a priori* in itself, and for special reasons, applicable in particular instances, though not in all—to lead to some permanent change in the rule of the noctidiurnal reckoning, as before in use<sup>n</sup>.

The absolute instant of the miracle of this day, May 31, B. C. 710, must have been the same for all parts of the surface of the earth, both east and west of Jerusalem; but the local time of the phenomenon in particular instances would vary for different meridians and different latitudes: and that would give rise to an almost endless variety in the circumstances and phenomena of the miraculous anomaly itself, all round the globe in either direction. If the true time, as I have contended, in the succession of noctidiurnal time, as measured from the first by the period of 24 hours of mean solar time, reckoned from 6 P. M. to 6 P. M. perpetually—was 6 P. M. in the decursus of this period exactly—that would be 6 P. M. in the local time also only of the primary meridian<sup>o</sup>—i. e. if, (as I have also contended, and as it is proved by this miracle itself,) the primary meridian was that of Jerusalem, only in the local time of Jerusalem, and of any other locality on the surface of the earth, which had the same meridian as Jerusalem. In the local time of every other meridian, east or west of that, it would be later or earlier than 6 P. M. mean time, in proportion to the difference of meridians or longitudes; four minutes mean time later for every degree of longitude east of Jerusalem, four minutes earlier for every degree west of it.

It is easy to see then that, owing to this difference of meridians alone, the reckoning of the noctidiurnal cycle, for every meridian but one, previously going on, from evening to evening in the local time of each, was liable *a priori*, by the occurrence of such an anomaly as this of the second miracle, to be disturbed in a variety of ways. And as a consequence of this, it could scarcely fail but that, in some of these instances, a new rule of the reckoning would be found to have been substituted from this time forward for the old one—

<sup>n</sup> Fasti, i. 344 : iv. 595.  
page cxiii-cxvii. : Fasti, ii. 58-67.

<sup>o</sup> Cf. Origg. Kal. Ital. Preliminary Address,

though probably as near to the analogy of the old rule, as the circumstances of the case would permit.

The principal exceptions to the primitive rule of the noctidiurnal reckoning, the evidence of which met us when we were collecting the proofs of the rule in the *Fasti*, were these *four*; the Babylonian rule, the Persian rule, the Chinese rule, and the Roman or Julian rule<sup>p</sup>. Let us briefly review each of these at present, in order to see how far it admits of being explained and accounted for by the phenomena of the second miracle.

i. The noctidiurnal cycle among the Babylonians, it appeared<sup>q</sup>, was reckoned from sunrise or morning. Now the meridian of Babylon having been 36 m. 35 s. east of that of Jerusalem, the instant of the miracle in Jerusalem time, May 31, at 18 h. mean time, in that of Babylon was May 31, at 18 h. 36 m. 35 s. mean time: and it has been shewn<sup>r</sup>, that the article of the miracle for this meridian and this latitude having been 56 m. 33·6 sec. apparent time, in the xiith hour of the current diurnal time, that of the restitution of the sun was 35 m. 38·8 sec. in the second hour. So that for this latitude the miracle having anticipated the end of the twelfth hour of the day only by 13 m. 21 sec.—and the evening half of the cycle having thereby become the morning half,—when we add to this coincidence the fact that ever since B. C. 1106, (the epoch of the Babylonian correction, as I hope to shew in the fourth Part of this work,) sidereal time had become so intermingled in the observatories of the Chaldees with mean solar time<sup>s</sup>, that the account of both must necessarily be kept together, we may well conclude that the wise men and star-gazers of Babylon, B. C. 710, would think that, in consequence of the recent anomaly, they had no alternative except that of carrying on the reckoning of the noctidiurnal cycle, from this time forward, not from the old epoch of evening, but from this new one of morning, just substituted for it by the anomaly itself.

ii. The Persian rule also, it appeared in like manner<sup>t</sup>, was to reckon the cycle from sunrise, or morning. And this is still the rule of the Parsees at the present day. Now the

<sup>p</sup> *Fasti*, i. 202-218.

<sup>q</sup> *Ibid.* 204.

<sup>r</sup> *Ibid.* i. 351: iv. 604, 605.

<sup>s</sup> Cf. *Fasti*, iv. 94-99.

<sup>t</sup> *Fasti*, i. 206.

meridian of the ancient Persepolis too having been 1 h. 12 m. 35 sec. east of that of Jerusalem, it has been shewn<sup>v</sup>, that the instant of the miracle at Jerusalem, May 31, at 18 h. mean time, for that of Persepolis must have been May 31, at 19 h. 12 m. 35 sec. mean time—and the article of the miracle in the local time of Persepolis having been at 29 m. 47 sec. in the first hour of night, that of the restitution of the sun was 3 m. 0·8 sec. before the end of the second hour of day. The correction of Gjemschid, (B. C. 702, as I hope to shew in the fourth Part,) could not yet have taken place in Persia, by B. C. 710—but an older correction, from which even this was derived, had taken place in Bactria 200 years and upwards before; and the distinction of Principles, and the doctrine of Izeds, and of their relation to the months, and to the days of the months, introduced by the Bactrian reformer, the elder Zoroaster, along with his correction, were probably nothing new to the Persians even in B. C. 702. If so, the course of menstrual and noctidiurnal time being now as much connected in Persia with the services of religion, and the influences of the Izeds, as in Chaldaea with the influences of the stars—the Persians were as likely as the Chaldeans to think that, when the evening half of the noctidiurnal cycle had just been turned into the morning half, they too had no alternative except that of continuing the proper reckoning of the evening half, already begun, with its proper services also, from the proper epoch of the morning half.

iii. With respect to the Chinese rule—it was found to stand distinguished from every other, in reckoning the cycle neither from evening, nor from morning, nor from noon, nor from midnight—one or other of which was the recognised epoch of the reckoning in almost every other instance<sup>x</sup>—but from a certain point of time before the instant of midnight. That is, the period of 24 hours, the proper measure of the noctidiurnal cycle perpetually, being divided by the Chinese into 100 equal parts, called *Kē*, each of them consequently equal to 14·4 m. of mean or apparent time, it is the rule of the cycle among them at present, to reckon it from 14·4 m. or one *Kē*, past the 23d hour from midnight—or as it

<sup>v</sup> Fasti, i. 349: iv. 603.

<sup>x</sup> Ibid. i. 136.

would be expressed in our style, at 11 h. 14 m. 24 sec. P. M. or 45 m. 36 sec. before the point of midnight<sup>y</sup>. And this, as every one must allow, is a very singular rule—which no one could have expected *a priori* to meet with among any of the nations of antiquity, and in particular among the Chinese. Let us see then whether it cannot be accounted for by the miracle of B.C. 710, and by the peculiar circumstances under which it must have happened in China.

First, it appears from the testimony of Gaubil, and others of the Jesuits who resided so long in China<sup>z</sup>, that the principal seat of learning and science in China for this æra was Cai-fong-fou, the metropolis of the province of Honan; and the longitude of Cai-fong-fou, as determined by the same authorities, relatively to that of Pekin, appears to have been such that if the meridian of Pekin was 5 h. 25 m. 9 sec. east of that of Jerusalem, that of Cai-fong-fou might very probably be assumed at 9 m. 48 sec. less than that of Pekin. And this being assumed accordingly, it has been seen<sup>a</sup> that, while the article of the miracle for the meridian of Jerusalem was May 31, 18 h. mean time or May 31. 18 h. 9 m. 33.02 apparent time, for that of Cai-fong-fou, it must have been May 31, 23 h. 24 m. 52.9 sec. apparent time, 14 m. 24.8 sec. past the *sixth* hour of night, consequently only 0.8 sec. more than one Ke of 14 m. 24 sec. in length. This coincidence can scarcely leave it doubtful that the peculiar rule of the noctidiurnal reckoning among the Chinese, (into the origin of which we are inquiring,) must have been due to the miraculous anomaly of this very occasion—the nature of the event itself having been such as very probably to determine the Chinese to make the instant of its occurrence the epoch of a fresh rule of the cycle from that time forward—the better to compare (as they might propose) any similar recurrence of such a phenomenon with that of this day.

The meridian of Pekin being 5 h. 25 m. 9 sec. east of that of Jerusalem, it has been shewn<sup>b</sup> that the instant of the miracle for that meridian must have been May 31, at 23 h. 34 m. 10.8 sec. apparent time, or 22 m. 7.5 sec. in the sixth hour of night. And this having been 7 m. 43.5 sec. more

<sup>y</sup> Fasti, i. 373–376: iv. 615.

<sup>a</sup> Ibid. iv. 615.

<sup>z</sup> Ibid. i. 373–377: iv. 615.

<sup>b</sup> Ibid. i. 376: iv. 616.



advanced than one Ke of 14 m. 24 sec. would have been, it is manifest that the phenomena of the miracle for this latitude and this meridian could not have been so well calculated to account for the peculiarity of the Chinese rule of the noctidiurnal reckoning ever after, as the same things for those of Cai-fong-fou. But they would be very well adapted *a priori* to explain and account for the Chinese tradition relative to the eclipse of Hi and Ho, to which I adverted *supra*<sup>c</sup>; and to prove that this too is ultimately to be resolved into the miracle of this day. For, supposing Pekin to have been the Imperial city of this æra in Chinese history, the instant of the miracle there having been at 22 m. 7·5 sec. in the sixth hour of the night, that of the restitution of the sun must have been at 47 m. 14·1 sec. in the sixth hour of the day<sup>d</sup>, only 12 m. 46 sec. before the point of noon. And this having been the case, we may easily conceive what must have been the surprise and consternation of the Court, and of the rest of the inhabitants of the Imperial city, roused from their first sleep, at the deadeast and darkest point of the night, to find themselves, without any warning beforehand, or reason to expect such an anomaly, in the midst of the full blaze of noon<sup>e</sup>.

iv. With regard to the Roman rule, or the difference between the Julian rule of the Noctidiurnal reckoning and the Primitive, let us now see whether that too may not be accounted for by the peculiarity of the phenomena of the miracle at Rome.

The meridian of Rome being 1 h. 30 m. 58 sec. west of that of Jerusalem, the instant of the miracle at Rome, it has been shewn<sup>f</sup>, must have been May 31, 16 h. 38 m. 35·4 sec. apparent time, at 58 m. 21·7 sec. past the *tenth* hour of the current diurnal time; and the article of the restitution of the sun must have been May 31 at 4 h. 38 m. 35·4 sec. apparent time; only 57·3 sec. before the article of sunrise, for the latitude of Rome, the same day, May 31, at 4 h. 39 m. 32·7 sec. apparent time. The effect, consequently, of the miraculous anomaly of this day at Rome was to replace the centre of the sun almost critically in the very position, rela-

<sup>c</sup> Page 117.

<sup>d</sup> Fasti, iv. 616, 617.

<sup>e</sup> Cf. Fasti, i. 377. iv. 617.

<sup>f</sup> Fasti, i. 354-361. iv. 611.

tively to the sensible horizon, which it had occupied at sunrise the same day, 12 hours before. If so, it is very conceivable that the occurrence of such an anomaly *there* and *then*—attributable as it must appear at Rome, as well as every where else out of Judæa, to some natural cause—some fatal necessity—which might be expected in due course of time to produce the same effect again—might lead to a change in the preexisting rule of the Noctidiurnal cycle, at Rome in particular. Numa Pompilius was reigning there at this time, and the miracle fell out in the fourth year of his reign, dated from B. C. 713<sup>g</sup>. It might appear to those of the people of the time, who reasoned upon the phenomenon at all, that, if the natural cycle of day and night, from whatever cause, was thus liable to oscillate from evening to morning, and from morning to evening again, the epoch of the civil cycle of the same kind, the least likely to be disturbed by such periodical changes in that of the natural, would be that of midnight or that of noon. Of these two; some of Numa's contemporaries might prefer that of noon<sup>h</sup>; and he himself that of midnight. And thus we should see reason to attribute even the rule of the cycle which we ourselves are observing at the present day, to the miracle of the time of Hezekiah, and to its particular phenomena and effects at Rome.

And yet, as I contended<sup>i</sup>, it is far from improbable that this change of the rule, thus made even at Rome, was designed at first only for the services of religion. The earliest institution of a religious kind, historically attributed to Numa, to the rule of the cycle in which, as midnight, express testimony is extant at present, is that of the *Lemuria*<sup>k</sup>; and that having been professedly intended for the peace of the dead, it is very observable that both this. and another institution of Numa's also, similarly designed, and in its place in the calendar, and in the peculiar rule of its celebration, closely connected with this, when traced up to their true moving cause, and referred to their true final end, appear to have arisen out of the miracle of this day, and out of the accidental association even of that with another event, of recent occurrence at Rome, and very likely *a priori*, in the appre-

<sup>g</sup> Origg. Kal. Ital. i. 191–197. <sup>h</sup> Ibid. i. 360. iv. 612. <sup>i</sup> Ibid. ii. 360. iv. 613. i. 210 sqq. <sup>k</sup> Fasti, i. 354 sqq. : Origg. Kal. Ital. i. 303 sqq.

hension and modes of thinking of the people of the time, to be connected with it<sup>l</sup>.

This event was the death of Romulus; and the circumstances of connection between *that* death and *this* miracle were the following. The year of the death was B. C. 715, that of the miracle was B. C. 710, only five years later. The lunar date of the death of Romulus was the new moon of May B. C. 715, that of the miracle was the new moon of May B. C. 710. The Julian date of the former was May 26, that of the latter was May 31, only five days later. The death of Romulus, it was well known to Numa Pompilius, had been the effect of treason and violence<sup>m</sup>; yet his death was still an unexpiated act of violence, so late after it as B. C. 710. When therefore the sun, which had been in conjunction with the moon at the time of the death of Romulus, in the same month of May, and within five days, on the same day of the month, B. C. 715, when approaching to the conjunction again on this day, May 31 B. C. 710, was seen to start back, as it were, and to recede over the entire space of the visible heavens, from the western horizon to the eastern, what was more likely than that such a phenomenon would be construed at Rome into a palpable mark of the displeasure of the gods, and especially of the sun, at the still unexpiated death of Romulus? And hence the institution of the *Lemuria*, expressly intended for the appeasing of the manes of the dead in general, with their very peculiar rule—and hence also the institution of the *Sexagenarii de Ponte*, expressly intended for the satisfaction of Romulus in particular—and taking up and carrying on the rule of the *Lemuria*, in this first instance, over two days more—a vicarious sacrifice to the Manes of Romulus, through the images or likenesses at least, though not in the persons, of those who were most responsible for his death, his *ὁμήλικες* or equals in years<sup>n</sup>. And these *ὁμήλικες* of his, contemporaries of the institution, having by their own age at the time given its name to the ceremony, we learn from that coincidence a fact of much importance to the personal history of Romulus; viz. that he too, if he had

<sup>l</sup> Fasti, i. 355. Orig. Kal. Ital. i. 303 sqq. 311 sqq.  
Kal. Ital. i. 331.

<sup>m</sup> Cf. Orig.

<sup>n</sup> Orig. Kal. Ital. i. 311–326.

been living B. C. 710, would have been sixty years of age, and therefore must have been born B. C. 769.

v. To conclude then with an instance of the probable effect of the second miracle in the new world, as well as the old; among the Aztecs or Toltecs of Spanish America°.

The most peculiar and characteristic of the opinions or doctrines of these nations, when the Spaniards first came among them, was found to be that of a succession of ages, each of them terminated by the extinction of its proper sun; and the most peculiar and characteristic of their institutions and customs was that of the secular fire; the origin of which must be traced up to the above belief, as may probably appear more clearly from the fourth Part of the present Work.

Now the meridian of Anahuac or Mexico having been 8 h. 57 m. 7 sec. west of that of Jerusalem, it has been seen<sup>p</sup> that, for this latitude and this meridian, the instant of the miracle must have been May 31 at 28 m. 43·4 sec., in the fourth hour of current diurnal time, and the instant of the restitution of the sun must have been 50 m. 39·7 sec. in the third hour of night. And the former having been only 2 h. 47 m. 35·3 sec. before the point of noon, and the latter only 2 h. 47 m. 35·3 sec. before the point of midnight, and the œconomy of the miracle having been the same every where, viz. the instantaneous reversion of the heavens 180 degrees from west to east, the phenomenon at Mexico would be that of an apparent instantaneous extinction of the light of the sun at noonday. And this fact would be a sufficient foundation, in the course of time, for the peculiar doctrine of the succession of ages, discriminated asunder by the extinction of suns, and for the cognate institution of the secular fire<sup>p</sup>. And as the Aztecs, when the Spaniards came among them, were using a division of the noctidiurnal cycle into *eight* parts, each of them *three* hours in length; even that might have been founded on the coincidence just pointed out, viz. that the actual instant of the miracle, for the meridian of Anahuac, was only 28 m. 43·4 sec. later than the end of the third hour of the day<sup>q</sup>.

° Fasti, i. 361.

<sup>p</sup> Ibid. i. 363.

<sup>q</sup> Ibid. iv. 610.



There are yet other confirmations of the miracle of this day, May 31 B. C. 710, supplied by tradition, though not so striking as these; to which I refer the reader<sup>r</sup>. That it attracted attention at the time, (as it could not fail to do,) in quarters distinct from Judæa, appears from the embassy of Merodach-Baladan, the contemporary king of Babylon, mentioned in Scriptures, the object of which was to inquire about “the wonder that was *done* in the land,” as much as to congratulate Hezekiah on his recovery from his sickness.

iv. Testimony of the Natural Measures of Time.

The testimony of the natural measures of time, on such a question as that which we are considering at present, is the proof of the effect which the occurrence of the two miracles has produced *de facto* on the decursus of these measures, whether in themselves, or with respect to any thing else to which they may have been referrible from the first, before and after that occurrence respectively. To enter however into the particulars of that proof *here*, to go into all the necessary explanations, and to point out the *rationale* of the process in each instance, would take up too much time; and would require Tables. It is sufficient to remind the reader that this has been done with all the minuteness and circumstantiality which the nature of the case demanded, in my General Work, and especially in the Prolegomena to the third Part<sup>t</sup>.

The natural measures however being only these three, of the noctidiurnal, the menstrual, and the annual—and Julian annual, in contradistinction to natural, being only another form of noctidiurnal; it is to be observed that the addition of 12 hours to a given noctidiurnal cycle, though necessarily implying a similar addition to the length of a given Julian year, by no means implies the same thing of the corresponding natural year. Nor indeed, whatever reason there may be to conclude that the proper Julian annual time of the existing system of things must have been twice affected in a certain way, is there any to suppose that the natural annual was in the least degree affected in the same way. It was to be expected therefore *a priori* that in whatsoever manner the

<sup>r</sup> Fasti, i. 373 n. 325, 326 n. Kal. Hell. i. clxx–cxclv.

<sup>s</sup> 2 Chron. xxxii. 31.

<sup>t</sup> Origg.

miraculous anomaly might be reflected in the proper Julian and proper hebdomadal style of the noctidiurnal succession, it would be differently reflected in the proper Julian and proper hebdomadal style of the annual, in the sense of the natural; and if, under the circumstances of the case, the stress of the anomaly even in the former must fall, not on the succession of the period of 24 hours in its proper hebdomadal style, but on the Julian style of the succession, in the latter, this state of the case must be reversed, and the stress of the anomaly must fall, not on the Julian style of the succession of the period of 24 hours in the annual, but on the hebdomadal: that is, some one actual Julian term must have become the proper Julian style of two hebdomadal *feriæ* in the one case, and some one actual hebdomadal *feria* the proper hebdomadal style of two Julian terms in the other.

These observations having been premised, and the natural measures of time, as before stated, being reduced to these three, the noctidiurnal, the menstrual, and the annual, the menstrual being reserved for consideration by itself, and the effect of the two miracles, though produced at *twice*, yet, for the purpose of the present argument, being assumed to have been produced at *once*, and the epoch of this joint effect of both to have been B. C. 672; the *general* or the *particular* operation of the miraculous anomaly in question, on the different component parts of the existing system of time, evidenced by their state *per se*, and by their relations *inter se*, even at present, as explained more at large, and demonstrated in my general work<sup>v</sup>, may be summarily stated as follows:

i. The specific effect of the miraculous anomaly on the decursus of the period of 24 hours, as the measure of the noctidiurnal cycle of the system perpetually, has been *this*, That two periods of 24 hours have gone to one noctidiurnal cycle; and the specific effect of the same anomaly on the same period, as the measure of the hebdomadal cycle of the system perpetually, has been *this*, That eight periods of 24 hours, eight *feriæ* so measured, instead of seven, have gone to one hebdomadal cycle.

<sup>v</sup> Orig. Kal. Hell. i Prolegomena, clxx. sqq.

ii. The specific effect of the same anomaly on the proper style of the period of 24 hours, as entering into and measuring the noctidiurnal and the hebdomadal time of the system under some Julian denomination or other perpetually, has been *this*, That seven Julian terms, March 28—April 3, have been rendered the Julian representatives of eight hebdomadal ones, the FERIA 1—8: and the specific effect of the same anomaly on the proper style of the period of 24 hours, as entering the noctidiurnal and hebdomadal time of the natural annual time of the system, under some Julian designation or other, has been *this*, That eight Julian terms, March 26 to April 2, have been rendered the proper Julian representatives of seven hebdomadal *feriæ*, the FERIA 1—7<sup>x</sup>. And the consequence of these things has been that, from B. C. 672 down to the present day, the proper hebdomadal style of the simply Julian time of the system has come to be one term *higher* in the order of *feriæ*, and the proper hebdomadal style of the natural annual, has come to be one term *lower* in the order of *feriæ*, than either would have been at the present day, if neither of the miracles had happened. Every simply Julian term, since B. C. 672, has represented and is still representing an hebdomadal *feria* greater by unity, and every natural term or Gregorian-Julian term has represented and is still representing an hebdomadal *feria* less by unity, than it would otherwise have done, or would now be doing.

iii. The specific effect of the miraculous anomaly on the natural annual and the Julian annual time of the system *inter se*, as exhibited in the Tables of the Fasti before and after this epoch of B. C. 672, has been *this*, To necessitate the change of the Julian type of the natural annual on two occasions half a period, or 56 years, at least, earlier than otherwise would have been required: i. e. to necessitate the use of 49 types of Julian time as the conventional representative of natural, from April 25 A. M. 1. B. C. 4004 to March 9 A. M. 6049 A. D. 2045, instead of 48.

iv. The specific effect of the same anomaly on the equable annual time of the system has been *this*; The distinction of kinds in this form of the annual time of the system, into

<sup>x</sup> Cf. Origg. Kal. Hell. i. Prolegomena, clxxviii. clxxvi.

equable cyclical and equable Nabonassarian, remaining the same—the reference of each to the Julian annual, (that of equable cyclical to positive or Gregorian-Julian, and that of equable Nabonassarian to the simply Julian form of this Gregorian.) remaining the same—the absolute epoch of both, April 25 at midnight B. C. 4004 remaining the same—the epochal distance of origination between them, 26 terms in the regular order of the equable notation remaining the same—the impossibility of reducing this epochal difference to 0, or a relation of equality, in less than 26 changes of the Julian type of the time of the system, and 26 corresponding changes of the equable type, remaining the same—the effect of the anomaly on the equable annual and noctidiurnal time of the system, I say, has been *this*; To abridge the length of these types in two instances by 56 years, and thereby to bring about the equalization of the Nabonassarian to the cyclical time of the system B. C. 728, instead of B. C. 672. And both forms of the equable time of the system having set out together in a state of equality or identity, from this epoch of B. C. 728, and having gone on together each in subjection to its proper law, down to A. D. 225, when both became amenable alike to the rules of the simply Julian calendar of the present day, another specific effect of the anomaly on the relation of these two kinds of the annual and the noctidiurnal time of the system *inter se* has been *this*; To leave them A. D. 225, permanently fixed relatively to each other, in such a manner, that Thoth 1 cyclical from that day to this has been perpetually the equivalent of Thoth 9 Nabonassarian, and *vice versa*; though otherwise Thoth 1 cyc. from A. D. 225 downwards would have been found answering perpetually to Thoth 8 Nab. and Thoth 8 Nab. to Thoth 1 cyc.<sup>y</sup>

v. With regard to the question reserved for a distinct consideration<sup>z</sup>, that of the specific effect, (if any there was,) of both the miracles or of either of them, on the menstrual, in the sense of the lunar, time of the system, we may observe first of all, that whereas there were two new moons in the month of May B. C. 710, but one on the 1st, the other on

<sup>y</sup> Origg. Kal. Hell. i. Proleg. clxxvii.

<sup>z</sup> Page 129



the 31st, the latter alone was that with which we are concerned at present. And this being calculated from our own Tables, for the meridian of Jerusalem, is found to come out as follows <sup>a</sup>:

B. C. 710.

Mean new moon, May 31, 7 17 40·13 mean time.

True new moon, May 31, 1 33 47. 3 mean time.

It may therefore reasonably be inferred that, if the sun's apparent place at 6 P. M. mean time for the meridian of Jerusalem this day was set back 180 degrees, that of the moon, (though an invisible object at the time,) must have been set back to the same extent also. But whether the moon in particular was the subject of any further anomaly—especially whether the natural length of the lunation just beginning was any ways affected by this reversal of the heavens—is a question of fact which may best be determined by the testimony of actual lunar dates, older than the date of this miracle; if any such there are, handed down from observation at the time, and capable of being tested by calculation at the present day.

Now three data at least of this kind are extant, that of the full moon, March 19 B. C. 721, that of the full moon, March 8 B. C. 720, and that of the full moon, Sept. 1 B. C. 720 also—all observed at the time at the ancient Babylon, and recorded in terms in the *Magna Compositio* of Ptolemy<sup>b</sup>. And these too have often been calculated by modern astronomers, and they have generally been verified within 30 or 40 minutes of the recorded times at the utmost—and the more the modern tables have been improved, the nearer the results of these calculations have come to an absolute agreement with testimony in these instances. All the ecliptic full moons of the *Magna Compositio*, in fact, have been calculated from my own tables, and with the formulæ for the secular corrections both according to Damoiseau, and according to Mr. Adams<sup>c</sup>—and with the latter, in these three instances, (to say nothing at present of any more,) the results have come remarkably close to the dates of Ptolemy—as the following scheme will shew :—

a Fasti, iv. 564, 565.

<sup>b</sup> Ibid. ii. 411.

c Fasti, iii. 514 : iv. 670,

671. Introduction, 221, 223, 225. Advertisement, pag. iii, iv.

i. *Ecliptic Full Moon, March, B. C. 721<sup>d</sup>.*


---

PTOLEMY.	DAMOISEAU.	MR. ADAMS.
h. m.	h. m. s.	h. m. s.
Mar. 19, 21 30.	Mar. 19, 21 0 36.46.	Mar. 19, 21 41 49 m. t.

---

ii. *Ecliptic Full Moon, March, B. C. 720<sup>e</sup>.*


---

PTOLEMY.	DAMOISEAU.	MR. ADAMS.
h. m.	h. m. s.	h. m. s.
Mar. 9, 0 0.	Mar. 8, 23 18 59.	Mar. 8, 23 56 41.

---

iii. *Ecliptic Full Moon, September, B. C. 720<sup>f</sup>.*


---

PTOLEMY.	DAMOISEAU.	MR. ADAMS.
h. m.	h. m. s.	h. m. s.
Sept. 1, 20 30.	Sept. 1, 19 54 49.1.	Sept. 1, 20 24 57.

---

It was not possible that calculations, carried back in the usual manner from the present day beyond the epoch of May 31, B. C. 710, and the lunar conjunction of that day, to the dates of full moons, like these of B. C. 721 and 720, should find themselves so entirely in harmony with contemporary observation, if any one natural lunation, between the latest of these years and the present day, had been either longer or shorter than the natural standard of the mean or the actual lunar month<sup>g</sup>.

No such anomaly therefore, as an affection of the moon's real motion would have been, having ensued on the miracle of May 31, B. C. 710, let us proceed to inquire whether something of the same kind might not, nevertheless, have been the consequence of the miracle of May 31, B. C. 1520.

It is certainly an observable distinction in the circumstances of the two miracles, each in its proper place and time respectively, that the moon is set forth by Scripture itself, as the subject of the former, as much as the sun, but

<sup>d</sup> Fasti, ii. 411. Introduction, Adv. iv. 281.<sup>e</sup> Fasti, 411. Introduction, iv. 286.<sup>f</sup> Ibid. ii. 411. Adv. iv. 284.<sup>g</sup> Cf. Fasti, iv. 554 sqq.

not as the subject of the latter. And yet, though we have the express testimony of Scripture that the moon was implicated in the first miracle as well as the sun, we have no testimony of that kind, direct or indirect, that the moon was concerned in it, or affected by it, any more than the sun, i. e. to any greater extent than the sun. Let us then proceed to consider first of all the words actually addressed by Joshua to the sun.

Now, with respect to these, it is very observable that, though they are rendered in the authorised version by “Sun, stand thou still upon Gibeon; and thou, moon, in the valley of Ajalon;” and though they have always been treated by both the friends and the enemies of Revelation, as if they stood in the original, “Sun, stand thou still,” &c. the literal terms of the address in the Hebrew are, “Sun, be thou dumb upon Gibeon, and thou, Moon, in the valley of Ajalon.” The verb, which is rendered by ‘stand still,’ in the original is דָּוָם or Doum—and Doum in the Hebrew, both in sound and in meaning, is just the same as *Be dumb* in English.

Now, a command to *be dumb*, which must have meant first and properly *be silent*, addressed to any object, must have presupposed that this object was previously speaking some language—was not naturally dumb, but endued with a faculty of speech, of some kind, or in some sense, or other. What language then could such an object in external nature, as the sun, be supposed to have been speaking, when it received this command to cease to speak it, to become dumb, so far as the utterance of that language was concerned, for a season at least, if not for ever? I answer, *the language of time*—that language, of which the expressions or utterances were those steps or degrees of the shadow on the dial, alluded to in the account of the second miracle, corresponding to similar steps of progression in the actual motion of the sun, first from the horizon in the east to the meridian, and then from the meridian to the horizon in the west—making up, in their totality, at all seasons of the year, the twelve hours of Kairic diurnal time, and yet in their individuality discriminating one of these hours from another, at all seasons also.

The meaning therefore of the command, addressed to the

sun, yet couched in such terms as these, must have been *this*, That the sun should cease to speak this language of time—i.e. give any indication as usual—furnish any means as usual of judging, of the lapse or distinctions of diurnal time, through his own sensible or apparent change of place in the heavens, at least, for a certain prescribed interval of time; and as necessarily implied in such a command—that it should continue motionless in the heavens, for the same length of time, just as it was, and where it was, when it received this command. Such, I say, is the *rationale* of the language used on this occasion. It requires only to be stated, to satisfy any unprejudiced person that a more appropriate form of words could not have been selected; and it is greatly to be desired that, what more than any thing else made it so, “Be dumb,” instead of “Stand still,” had been retained in the authorised version <sup>h</sup>.

Now, as the apparent motion of the moon also from east to west is the same kind of indication of the lapse of Kairie time by night, as that of the sun by day, and consequently the moon might be said to speak a language of this kind almost as much as the sun; it is no wonder that, if the moon too was a visible object in the heavens just at the time when Joshua pronounced these words, the moon also should be found to have been included in the command to be silent, as far as this language was concerned—Sun be thou dumb upon Gibeon, and thou Moon in the valley of Ajalon. And such having been the command addressed in terms to both, the effect expected to follow upon it must have been the same in the case of both, viz. the stoppage or suspension of the motion of both, from east to west—for the prescribed interval of time in question—and this stoppage of an apparent motion in the case of both, which both of them derived only from the actual motion of the earth round its own axis in the opposite direction from west to east, in the very supposition of such an effect, and in the mode of operation, by which only it could be brought about, must necessarily have implied and involved the stoppage of the motion of the earth round its own centre, for the same length of time also.

<sup>h</sup> Appendix, Note Y



It is here, however, to be observed that, besides this apparent motion from east to west, derived from the real motion of the earth from west to east, the sun in particular has no other, known to astronomy at present, which could possibly be supposed to have been included in the scope of such a command as this; but the moon, in addition to this motion, and so derived, which it has in common with the sun, has another peculiar to itself, its motion of translation in space, along the ecliptic, from west to east, derived from its projection by its Creator round its own primary, at the same time, it must be presumed. when this primary itself received its own impulse of rotation round the sun—and this motion is such that at a mean rate it carries the moon over  $13^{\circ} 10' 35'' \cdot 027$  of the ecliptic, every 24 hours of mean solar time, and over  $6^{\circ} 35' 17'' \cdot 5135$  every twelve<sup>i</sup>. It may therefore be made a question whether this real motion of the moon from west to east round the earth, as much as its apparent motion from east to west round the heavens, was included in the scope of the command, as addressed to the moon, as well as to the sun, or not.

And this question at first sight it might not be easy to decide. I myself was long of opinion that the moon's real motion of translation in space must have been suspended, on this first occasion, as well as its apparent motion<sup>k</sup>; but further reflection has at length satisfied me that this supposition, besides involving insuperable difficulties of another kind, would imply a greater degree of the exertion of the Divine power, in the miracle of this day, than the circumstances of the case would justify—that Joshua could not reasonably be supposed to have intended more, or expected more, as the result of his command, as addressed to the moon, than as addressed to the sun—i. e. more than the suspension of the apparent motion of each from east to west, for a certain length of time—and that all the conditions and all the requirements of the case would be strictly and plenarily answered, if the sun was a visible object in a certain part of the heavens, opposite to Gibeon, and the moon was a visible

<sup>i</sup> Introduction to the Tables, xi. Part ii. page xix.  
Hell. i. xciv. Prolegomena ad Harmoniam, 5. Fasti, iv. 554.

<sup>k</sup> Cf. Orig. Kal.

object in a certain other part of the heavens, in the valley of Ajalon, when the words were addressed to both; and the sun was still a visible object in the same quarter, opposite to Gibeon, and the moon in the same quarter, in the valley of Ajalon, at the end of the time prescribed, as well as at the beginning. To the proof of this fact therefore I shall now proceed.

For this purpose, let us begin with calculating the time of sunrise for the latitude of Jerusalem, which will serve equally well for that of Gibeon, on the morning of the miracle, May 31, B. C. 1520.

Now sunrise, calculated as it has been in the *Fasti Catholici*, for this latitude, and in this year, and on this day, is found to have been as follows<sup>1</sup>—

	h.	m.	s.	
True sunrise, May 31	5	10	8.7	apparent time.
Equation of time	—	11	24.1	
True sunrise, May 31	4	58	44.6	mean time.

And this comes so near to May 31, 5 h. 0 m. 0 s. of mean time exactly, that it may well be supposed the actual time of sunrise this day, for this latitude and meridian, was May 31, at 5 h. from midnight exactly. And that being assumed, then, if 5 A. M. m. t. for the meridian of Jerusalem was also, as I have contended<sup>m</sup>, the actual date of the miracle of this day, it requires no argument to prove that the sun must have been a visible object, at that very time also, just rising above the sensible horizon in the east.

Let us next calculate the full moon of May, last before the day of the miracle, for the same meridian—and that too having been already done in the *Fasti*<sup>n</sup>, the result may be summarily stated as follows:

B. C. 1520, for the meridian of Jerusalem.

	h.	m.	s.	
Mean full moon, May 30	23	52	59	m. t.
True full moon, May 30	15	26	58.97	m. t.

So that this moon, at 5 A. M. m. t. the next morning, May 31, must have been 13 h. 33 m. past the full, and conse

<sup>1</sup> i. 267 : iv. 588, 597.

<sup>m</sup> *Supra*, 120.

<sup>n</sup> iv. 557-560.

quently could not have failed to be still a visible object in the west just as the sun was beginning to be so in the east, on the morning of this day.

And this is confirmed by the locality assigned to each respectively, at the same time and on the same occasion, by Scripture itself—that of the sun over against Gibeon, and that of the moon in the valley of Ajalon; for Gibeon and Ajalon, according to the best accounts of the geography of the ancient Palestine, were east and west of each other<sup>o</sup>, and Eljib the modern Gibeon, and Yalon the modern Ajalon, are so still<sup>p</sup>. It is confirmed also by my own calculation of the sun's azimuth on the morning of this day, May 31 B. C. 1520,  $22^{\circ} 46' 13''$  east from north, and the moon's, about  $30^{\circ} 46' 13''$  west of south<sup>q</sup>.

Such then having been the state of the case, with respect to the common visibility of the sun and the moon, at the precise time of the miracle of this day, 5 A. M. M. T., let us next proceed to consider what would be the state of the case with respect to the visibility of the moon in particular, left free to its natural motion of translation in space, while its apparent motion round the heavens was suspended, at the end of the next 12 hours. And this being simply a question of the time when the moon would set on the morning of this day, May 31, B. C. 1520, for the latitude of Jerusalem or Gibeon, we calculate first the sun's true place at sunrise 5 A. M. May 31, and find it (SL.) =  $54^{\circ} 17' 16''.1^r$ . From which it follows that, as  $54^{\circ} 17' 16''.1$  of the ecliptic was rising at 5 A. M. with the sun, the opposite point  $54^{\circ} 17' 16''.1 + 180^{\circ}$ , or  $234^{\circ} 17' 16''$  must have been setting precisely at the same time.

We calculate next the moon's true place in the ecliptic, (the moon's true longitude.) ML. for the same day, and the same time the same day<sup>s</sup>, and find it about  $242^{\circ}$ : and this being  $7^{\circ} 42' 44''$  at least east of the setting point at the same moment,  $234^{\circ} 17' 16''$ , it is manifest that the moon, at sunrise this day, must have wanted  $7^{\circ} 42' 44'' \times 4$ , or 30 m. 57 sec. of the time of setting. And if its motion from east to west was now suspended, and its motion from west to east

<sup>o</sup> Fasti, iv. 589.

<sup>p</sup> Ibid. 591 *n*.

<sup>q</sup> Ibid. 589.

<sup>r</sup> Fasti, iv. 588. 597.

<sup>s</sup> Ibid. 569.

was left free still, at the end of the next twelve hours it would be  $7^{\circ} 42' 41'' + 6^{\circ} 35' 17''$ , or  $14^{\circ} 18' 1'$ , at least more advanced to the east than the setting point  $234^{\circ} 17' 16''$ ; and even when the earth began to revolve again would be a visible object in the valley of Ajalon, for the best part of an hour before it would set.

---

## CHAPTER II.

*On the Pseudo-Chronology of Mundane or Human time, that is, the account of either distinct from and contrary to that of the Hebrew Scriptures.*

---

SECTION I.—*On the Pseudo-Chronology of this kind, which calls itself Scriptural; the Chronology of the Septuagint, the Chronology of the Samaritan Pentateuch, and the Chronology of Josephus.*

From the facts established in the preceding chapter, it is a necessary inference that the only chronology of mundane and human time, which is or can be attested perpetually by the three kinds of evidence which we have hitherto been considering—The natural measures of time, The primitive civil calendar, and antediluvian and postdiluvian tradition in its most genuine form, must be that of the Hebrew Bible; and consequently that no chronology, even calling itself Scriptural, different from this, can possibly be true.

Such chronologies however, pretending to be that of Scripture, and claiming, as if in their own right, the authority of Revelation, yet totally distinct from and opposed to, that of the Hebrew Bible, do exist, though they are only three in number—That of the Septuagint version of the Hebrew text of the Old Testament, that of the Samaritan Pentateuch, and that of the Antiquities of Josephus, which profess to have been based on that of the Hebrew Scriptures of their own time, however much they may differ from that of the Hebrew text at present.

Between these antagonistic systems of mundane and human time, all alike calling themselves the Scriptural, and



the true, in the sense of that of the Hebrew Scriptures of the present day, the difference lies principally in the length of the interval from the Creation to the Flood on the one hand, and from the Flood to the Exodus on the other. This interval, in the first of these cases, according to the Hebrew Verity, was 1656 years: according to the Septuagint, 2242, according to the Samaritan Pentateuch, 1307, according to Josephus, 2256 or 2656<sup>s</sup>.

To enter on a particular examination or confutation of each of these rival systems, so far as each of them differs from the Hebrew Scriptures, is superfluous for our purpose at present—the nature of the test of truth or falsehood in these respects, which we are illustrating and applying, both enabling and justifying us, in summarily disposing of all of them. For, if the true characters of the year of the Flood, for instance, could not possibly hold good of any year but A.M. 1657 B. C. 2348, for an indefinite length of time before or after, it is self-evident, that even if these so called Scriptural chronologies of any other kind agreed with that of the Hebrew Bible, in their year of the Creation, they must differ as widely from the truth, as from the Hebrew Bible, in their year of the Flood. And again, if the true characters of the year of the Creation, as I have shewn<sup>t</sup>, could not possibly hold good of any year but B. C. 4004, even if these so called Scripture chronologies agreed with the only true chronology of that kind in their year of the Flood, they must differ as widely from the truth itself as from this in their year of the Creation.

The interval again in the second of these cases, according to the Hebrew Verity, was 788 years, (B. C. 2348—1560), according to the Septuagint 1648, according to the Samaritan Pentateuch 1438, according to Josephus 1489<sup>v</sup>. And in deciding between these different data also we have nothing to do at present except with the same simple test of truth or falsehood as before. The true year of the descent from the ark, the true Natale Mundi of the Postdiluvian state of things, being determined by infallible characters of its own to B. C. 2347, and the true year of the Exodus, in

<sup>s</sup> Appendix, note Z.<sup>t</sup> Supra 6 sqq.<sup>v</sup> Appendix, note Z.

like manner, by similar characters to B. C. 1560, even if these other systems of so called Scriptural Chronology agreed with that of the Hebrew Verity in the year of the descent from the ark, the first year of their Postdiluvian time, they must differ as widely from the truth as from the Hebrew Bible in their year of the Exodus; or if they agreed with the true chronology of Postdiluvian time in the year of the Exodus from Egypt, they could not possibly agree with it in the year of the descent from the ark.

In a word, every system and scheme of Mundane and Human time from the Mosaic Creation to the Exodus from Egypt, whatsoever its professions or its claims in its own behalf, yet being tried by this touchstone perpetually, and reduced to those tests which have been brought to light, and applied to the chronology of the Hebrew Bible, in the preceding chapter, none, it is evident, which is not the same with this, can possibly be true.

SECTION II.—*On the Pseudo-Chronologies of Profane antiquity; and first, of that of the Egyptians, and of the principal questions of fact to the issue of which the truth or the falsehood of this in particular is reducible.*

With regard to any other systems of Mundane or Human time, which do not profess to be Scriptural, and yet are still more opposed to the only true Scriptural system of this kind, than those which do, they are of course the Pseudo-histories and Pseudo-chronologies of the world, and its inhabitants, discoverable any where, external to and independent of the Hebrew Scriptures. And though there is no system of that kind, in which Profane antiquity in general can be shewn to have agreed, even in contradiction to that of the Hebrew Verity—particular systems and schemes of this kind, among the nations of antiquity, were almost innumerable—every people of former times, which had any literature, and any tradition of the past, at all, having had one of its own—all alike opposed to the Scriptural—yet each different from the rest, and each as incapable of being reconciled with the rest as with that of Scripture; which may very reasonably be considered a common mark of the fictitious character of all of them alike.

The principal systems of this kind however, (those at least which have always exerted and are still exerting the greatest influence to the prejudice of the truth,) are these five, That of the Egyptians—that of the Chinese—that of the Hindoos—that of the Babylonians or Chaldeans—and that of the Assyrians. Of these, the Pseudo-history and Pseudo-chronology of the Babylonians or of the Assyrians, may possibly come under consideration in a future Part of my *Origines*. That of the Chinese and that of the Hindoos, and more especially that of the Egyptians, have already occupied a considerable share of attention in the first Part. Among these five too, the Egyptian in reality is that which is most authoritative and most influential either to create or to confirm the unhappy sceptical bias of the present day; and to make men doubt of the truth of Scripture history and Scripture chronology, as opposed to this in particular, in spite of themselves. And in fact, when the history of these systems of Pseudo-mundane history and chronology in all parts of the ancient world comes to be narrowly investigated, and one scheme of this kind to be compared with another, that of the ancient Egyptians turns out to have been the first of its proper class; the very first which was contrived by men to serve an interested purpose of their own: and, as might naturally have been expected under such circumstances, it was the example thus set by the Egyptians, which, on the principle of imitation or rivalry, ultimately led to the same falsification of history and chronology for similar purposes of their own, among the rest of the nations of antiquity. By way of specimen therefore of the use and application of that peculiar test of truth or falsehood in the history or chronology of the past, which is supplied by the inquiries of the *Fasti* and *Origines* into such subjects as the history of opinions, on points of universal importance and interest—(the origin of the world, the origin of society, the origin of the gods—) or the history of institutions and ceremonies, for the national observance, which took their rise out of such opinions—and more especially the history of the corrections of the common calendar of all mankind in particular instances, expressly for the sake of these institutions and these observances—I cannot do better than briefly advert to some of the

many questions of fact on which this pseudo-history and pseudo-chronology of the Egyptians in particular, according to its own professions, and the conclusions established in the *Fasti* and *Origines*, are diametrically opposed to each other, and therefore cannot possibly both be true.

i. On the antiquity of the Principal objects of worship among the Egyptians; the *Osiris* and the *Isis* of ancient Egypt.

First then let me begin with testing the truth of the statements and professions of the Egyptians, either founded on, or confirmed, as it is supposed, and substantiated by this history and this chronology, respecting the only two objects of worship among them, in the recognition of which the whole nation agreed alike<sup>x</sup>—the *Osiris* and the *Isis* of ancient Egypt—and the age assigned to these in particular—older incomparably than the oldest of their human Dynasties, and the first of their human kings—older even than the oldest of their divine<sup>y</sup>.

In opposition and contradiction to all this, it has been shewn in the *Fasti Catholici*, i. That the real antiquity of the *Osiris* and the *Isis* of the Egyptians could not have been greater than that of the fable of the Cosmogonic Egg—as was necessarily to be inferred, first, from the first and true name of *Osiris* even among the Egyptians, *Suiri*—in Greek, *Σύρις* or *Ῥοίρις*—and the true meaning of that name, the Son of the Egg<sup>z</sup>; secondly, from the positive testimony of the *Stelè* in the Arabian *Nysa*, in which *Osiris* was actually set forth as this Son of the Egg<sup>a</sup>. Thirdly, from the Gemini of the sphere, (*Osiris* and *Isis* themselves,) and the symbols of that sign, the two ends of this cosmogonic egg, from one of which *Osiris* originally came forth, and from the other *Isis*<sup>b</sup>.

ii. That the real antiquity of *Osiris* and *Isis* could not have been older than the first Sothiacal period, known to history among the Egyptians, the date of which commonly recognised at present is B. C. 1322, and the true was B. C. 1350<sup>c</sup>. For, as the proper epoch of this period, whether one

<sup>x</sup> *Fasti*, iii. 78.      <sup>y</sup> *Ibid.* 74.    cf. Bunsen, *Standing of Egypt*, i. 362 sqq. 414. 423.

<sup>z</sup> *Fasti*, iii. 165 sqq.

<sup>a</sup> *Ibid.* 174.

<sup>b</sup> *Ibid.* iii. 373, 374.

<sup>c</sup> *Fasti*, iii. 71, 110.



of its kind, or more, among the Egyptians was never any thing but that of the heliacal rising of Sirius, and the Egyptian name of Sirius was never any thing but that of Sothis<sup>d</sup>, that one of the members in this duad of divine principles, the first and oldest of their kind according to the profession and belief of the Egyptians, (and by parity of reason, the other also, as they always went both together.) could not have been older than the first heliacal rising of Sirius or Sothis, nor consequently than the first Sothiacal period—is proved first by the name of Isis, identical with that of this star, Isis-Sothis<sup>e</sup>. Secondly, by the inscription at Nysa, in which the rising and appearance of Sothis every year was identified with that of the rising and appearance of Isis, in and through that of this star every year also<sup>f</sup>. Thirdly, by the meaning of this name of Sothis, the star of conception *g*, as illustrated by the fable, explained *supra*<sup>h</sup>, and by the translation of the first historical rising of Isis in this form and under this name of the *conceiving* star, from July 20, B. C. 1350, to the very first rising which could have taken place under the same circumstances, within the period of time embraced by the duration of their own proper system of things, July 20, B. C. 4006—in order that she might be manifested both then, as appearing for the first time, and yet even then, as *conceiving* that, which, as the mother of the universe, as the parent of the existing system and scheme of things, she was to be supposed to have brought forth 280 days afterwards, April 25, B. C. 4005.

iii. That the real antiquity of Osiris and Isis could not have been greater than that of the Isia, which came into being along with them also, and as their proper and characteristic solemnity from the first; nor, (as it was shewn, by a variety of circumstantial proofs<sup>i</sup>) the antiquity of this institution, as attached to its proper date Athyr 17, from the first, older than the time when Athyr 17 in the primitive Calendar was falling on October 6 in the proleptical Julian calendar, and October 6 on the earliest seed-time for the climate of Egypt, the mean autumnal equinox: nor these

<sup>d</sup> Fasti, iii. 29.<sup>e</sup> Ibid. 31. 110.<sup>f</sup> Ibid. 31. 111.<sup>g</sup> Ibid. 31.<sup>h</sup> Page 14.<sup>i</sup> Fasti, iii. 81–90. 109. 118–140. 165–165.

coincidences in general, earlier or later, within any assignable historical limits, than *Æra Cyelica* 2657, B.C. 1350<sup>k</sup>.

iv. And these conclusions were further confirmed<sup>l</sup> by the testimony of a remarkable fact, or rather a series of remarkable facts *communis generis*,—that of the appearance of the same kind of fable as this Egyptian one of Osiris and Isis, the same kind of conceptions as these, only under different names—the same kind of institutions as that of the *Isia*, with similar rites and ceremonies—attached to the same date in the calendar for the time being, the 17th of the third month, (the 17th of the primitive *Athyr*,)—as we may possibly see hereafter, within 12, or 20, or 28 years of the institution of the *Isia*, and as we have already seen in the first and the third Parts of this work, within 40 years among the Greeks<sup>m</sup>, and within 44 among the Hindoos<sup>n</sup>; and, as we may also hope to see hereafter, among others of the nations of antiquity, attached to this same equable term *Athyr* 17, in the descending order of such a term in the Julian reckoning, all round the primitive calendar. Nothing of this kind is discoverable any where, before B.C. 1350; and if so much, in its first conception evidently borrowed from the Egyptian *Isia*, and in its first expression evidently conformed to the Egyptian *Isia*, is discoverable immediately after, and so long after, B.C. 1350—in quarters too so different, and most of them so remote, from Egypt—who can hesitate to conclude that the *primum mobile*, the first cause of this movement, thus propagated in the course of time through the rest of the ancient world, must have been something which took its rise in Egypt B.C. 1350? and if so, the introduction of the national fable of Osiris and Isis, and the institution of the national solemnity of the *Isia*.

This conclusion then respecting the true date of the national fable and institution of the *Isia*, and the consequent real antiquity of the Egyptian Osiris and Isis among the Egyptians themselves. obtained from such premises as these, is decisive of the truth or the falsehood of the monumental, or the dynastic, history and chronology of the Egyptians—if,

<sup>k</sup> Fasti, iii. 134–140. cf. 140. 198.

<sup>m</sup> Origg. Kal. Heli. iv. 166–335.

<sup>l</sup> Ibid. iii. 112.

<sup>n</sup> Fasti, iv. 31–90.

even according to its own professions, however far back it might go in itself—it still fell incomparably short of the antiquity of Osiris and Isis. It is superfluous after this, to insist on particular inconsistencies which might be pointed out between this history and the actual course of things—such as the occurrence of names, the elements of which would recognise these of Isis or Osiris, before they were yet in being—or acts historically related, which presuppose the existence of Isis or Osiris—yet older than B. C. 1350. All these absurdities might be expected *a priori* to characterise a purely factitious system of history, invented long after B. C. 1350—and purposely set back to any distance before it which suited the views of its own authors—but it is impossible that any such inconsistencies could have appeared in a real history, whether contemporary with the events related by it, or written after them. No real history of that kind could ever have recognised—could ever have alluded to—could ever even have known of, Osiris and Isis, before B. C. 1350 at least.

ii. On the antiquity of the Principal Sacred Animals of the Egyptians; the *Mnevis* of *On* or *Heliopolis*, the *Apis* of *Memphis*, and the *Goat* of *Mendes*.

It so happens (providentially for the discovery of the true character of the dynastic history of the Egyptians, but most unfortunately for its own pretensions) that almost at the very beginning of its decursus, it has ventured on one circumstantial statement, viz. That the *Mnevis*, the *Apis*, and the *Mendes* or *Goat*, of their animal worship, were simultaneously proposed as divine, and simultaneously recognised as objects of worship among them, under one of the kings (*Kaiechōs*<sup>o</sup>) of the second dynasty, only 263 + 38 or 301 years after the supposed beginning of this dynastic chronology itself, B. C. 346 + 3555, or B. C. 3901 P—that is, as early as B. C. 3600. On this principle the *Mnevis* of *Heliopolis*, the *Apis* of *Memphis*, and the *Goat* of *Mendes*, were all coexistent in Egypt, and all as old as, B. C. 3600. And this statement has been received by the Egyptologers

<sup>o</sup> Bunsen, *Standing of Egypt*, i. 77. 224. 612.

<sup>p</sup> *Ibid.* i. 86.

of the present day, as they style themselves, on the authority of the dynastic history, as implicitly perhaps and undoubtedly as any: and yet on each of these points, as a question of fact, I am ready to join issue with this history and this chronology, and on each I hope to convict it of a deliberate falsification of the truth.

i. Then, with respect to the true age of the Mneuis. I begin with observing i. that, though the Bull of Heliopolis according to testimony must have been black<sup>q</sup>, mention occurs repeatedly on the Monuments of a bull of Thebes or Diospolis, the characteristic colour of which was white<sup>r</sup>. This being the case, I observe in the next place that though of these two sacred bulls the only one real of its kind was the black bull of Heliopolis, and this white bull of Thebes is unknown to history, or testimony, any where except on the Monuments and Sculptures, yet, as the first idea even of a fictitious representation of this kind at Thebes must have been derived from the reality of the same kind at Heliopolis—there is no reason *a priori* why the proper cycle of this white bull, if recoverable from the Monuments, should not be supposed to have been taken from that of the black bull, nor why from the facts of the one we should not be permitted to argue those of the other. But if not, then, as repeated allusions to the period of this cycle of the white bull are found on the Monuments, which represent it as a *τριακονταετηρίς*, or cycle of thirty years<sup>s</sup>, we may infer from that fact that the cycle of the black bull was one of thirty years also.

ii. I observe, in the next place, that a period of thirty years is noticed in one instance lower down, in the Ptolemaic æra of Egyptian history itself, when contemporary testimony may be implicitly trusted; the epoch of which is determinable to the date of the birthday of the reigning king, Ptolemy Epiphanes, Mesore 30, Nab. 538, Æra Cyc. 3797, October 9, at midnight, B. C. 210<sup>t</sup>. With this datum, simply assuming that the cycle itself—like many others among the Egyptians both at this time and long before it—was a

<sup>q</sup> Fasti, iv. 149. 170.

<sup>r</sup> Ibid. 224.

<sup>s</sup> Ibid. 225.

<sup>t</sup> Ibid. iv. 152–156 sqq.



Julian one of its kind, the proper Julian date of which was always the same in the same years of the proper Julian cycle of leap-year—we should be enabled to go back at once from the recorded Julian date of this one cycle, October 9 at midnight, B. C. 210, to the same Julian term, October 9 at midnight, B. C. 1681, *Æra Cyc.* 2326, when the first of the Egyptian *Thoth* was falling last before on this given Julian date.

iii. Thus much then being hypothetically assumed—viz. that the period of thirty years, for some reason or other, was actually instituted when *Thoth 1 Æra Cyc.* 2326 was falling on October 9 B. C. 1681—the first confirmation of the hypothesis is the probable motive to such an institution, and at such a time, which may be derived from the epoch itself, and its relation to that of a still earlier institution of the Egyptians—the *Phoenix* period and cycle, 166 years older than B. C. 1681. The epoch of this latter was the date of the mean vernal equinox, for the meridian of Heliopolis, of the time being, April 8 B. C. 1847—and if the epoch of the former was October 9 B. C. 1681, it is observable that October 8 at 18 hours, or October 9 at midnight, might have been assumed as the Julian date of the mean autumnal equinox, for the meridian of Heliopolis also, B. C. 1681—almost as much as April 8 B. C. 1847, of the vernal<sup>v</sup>. And this may suggest with great probability the true motive to the institution, at *this* time; viz. to do the same honour to the sun of the autumnal equinox, by the institution of this period of thirty years, attached to October 9 B. C. 1681—as had already been done to the sun of the vernal, by the institution of the *Phoenix* period, attached to April 8 B. C. 1847<sup>x</sup>.

The next confirmation of the hypothesis is that, if we may suppose the period now first instituted, and in honour of the sun, to have been accompanied also, as it appears to have been, by the first institution of an animal type of the period, as the representative of its relation to the sun, neither the period, nor the animal type of the period, could have been older at On or Heliopolis than the Descent into Egypt (B. C. 1778), before which there is no proof in Scripture,

<sup>v</sup> *Fasti*, iv. 165.

<sup>x</sup> *Ibid.* iii. 238. 240.

much less any where else, of the existence of animal worship as yet in Egypt: yet both must have been older than the birth of Moses, B. C. 1640<sup>y</sup>, by which time it had certainly been introduced<sup>z</sup>.

iv. A Julian cycle of thirty years, and an animal type of the cycle, in the form of the black bull, or Mneuis, of Heliopolis, being thus supposed to have come into being together B. C. 1681; though the epoch of the cycle itself might have been this Julian term October 9 at midnight—yet, to judge from the analogy of the Apis cycle of later date, the birthday of the type of the cycle might have been a very different day; or though the natural existence of the type of the cycle should be supposed to have borne date from the first day of the cycle, the *Natural Birthday* and the *Mystical Birthday*, in this case, as in that of the Apis cycle of later times, might have been very different things: and the natural birthday in this relation being treated as equivalent simply to the *conception*, preparatory to the mystical birth, if the former was dated October 9, the latter, according to the assumptions of the Egyptians in such peculiar cases as these<sup>a</sup>, might be dated 280 days later, July 16.

Now, with respect to this date of July 16—mention occurs repeatedly on the Monuments of an ancient ceremony among the Egyptians, which from its very nature must have been the most interesting to them, and the most important in itself, of any in their whole year, and in alluding to which even the Monuments may be considered simply historical. For this was the *Panegyry of the Waters*—the annual commemoration of the rise of the Nile, on which the very existence of the Egyptians was dependent. Nor could any thing be more probable *a priori* than that it should have been celebrated by them in some appropriate manner almost from their very beginning as a nation<sup>b</sup>.

This annual phenomenon however, and in particular that period in the rise of the Nile when, its bed being now full, it was ready to overflow, having been connected also by long observation with another phenomenon—that of the appearance of Sirius or Sothis for the first time every year, in the

<sup>y</sup> Fasti, ii. 210–217.

<sup>z</sup> Appendix, note AA.

<sup>a</sup> Cf. *supra*, p. 15. cf. Fasti, ii. 513; iv. 163. <sup>b</sup> Cf. Fasti, iii. 2, and *iv.* 167.

dawn of the morning, just about this period in the inundation—and the first appearance of a given star, under the same circumstances, necessarily varying for different latitudes, in the proportion of one day later in time for every  $1^{\circ} 5'$  of difference in latitude<sup>c</sup>, it is very observable that, between the lowest parallel in Egypt, (that of Syene,) in the south,  $24^{\circ} 5' 23''$  N. and the highest, (that of Alexandria, and the mouth of the Nile,) in the north, cir.  $31^{\circ} 12' 53''$ —these differences amounted to 7 or 8 degrees in space, equivalent to six or seven days in time. So that, if the stated date of the first appearance of Sirius for the highest of these latitudes was July 21 or 22, for the lowest it must have been July 15 or 16<sup>d</sup>. And it is an obvious inference from these facts that, if the ancient Egyptians had an annual ceremony, called the Panegyry of the Waters, which commemorated the same blessing for the whole of the nation,—as ushered in by the same phenomenon for each of its parallels and each of its principal cities, (the first appearance of Sirius in the morning twilight)—from the nature of the case, it must have been spread over a period of six or seven days; and if it began to be applicable to the lowest parallel as early as July 15 or 16, and to the highest not before July 21 or 22, it must be kept for the seven days, either between July 15 and 21, or between July 16 and 22.

Now the proper Julian epoch of the Mneuis cycle being assumed Oct. 9 B. C. 1681, in the first year of the proper Julian cycle of leap-year, it must be October 9 in every year of the cycle alike<sup>e</sup>. Reckon on then 280 days from Oct. 9 in every year of the Julian cycle of leap-year but the fourth, and you come to July 16: and reckon 280 days from Oct. 9 in the fourth year of the cycle, and you come to July 15. On this principle, if 280 days from Oct. 9 was the stated date of the Natales Mneuidis, in every year of the cycle, and July 15 or 16 was the stated date of the Panegyry of the Waters also, the Natales Mneuidis and the Panegyry of the Waters must always have fallen out together; and therefore the date of the one must have been purposely accommodated to that of the other.

<sup>c</sup> Fasti, iii. 69 n.<sup>d</sup> Ibid. iv. 168. cf. 353.<sup>e</sup> Cf. Appendix, note BB.

v. On this principle, in the year before the Exodus, the stated date of the Natales Mneuidis, 280 days from Oct. 9 B. C. 1562, would be July 15 B. C. 1561; and consequently the date of the Panegyry of the Waters would be July 15 also, and the duration of the Panegyry on this occasion would be the seven days from July 15 to July 21. And this conclusion derives much confirmation from the nature and duration of the first of the Plagues, this very year; the subject of which was the Nile in particular, and never *a priori* more likely to have been so, than just on the eve of the inundation—when its bed would be full to repletion, and nothing would be necessary in order to its covering the country far and wide, except to let it out. For this duration itself was a term of seven days<sup>f</sup>; just as we have concluded that the Panegyry of the Waters every year must have been also. In like manner, 280 days from Oct. 9 B. C. 1561 bring you to July 16 B. C. 1560, as the date of the Natales Mneuidis in the year of the Exodus; and that it was actually such this year has been proved *supra*g from the testimony of Scripture itself—if at least the date of the erection of the golden calf (an image of the Mneuis itself) this very year has been rightly determined to July 16<sup>h</sup>.

vi. It being assumed then on the strength of these coincidences, that the date of the first Mneuis cycle was October 9 B. C. 1681, and the length of the cycle a period of 30 Julian years perpetually; the date of the second would be October 9 B. C. 1651, that of the third October 9 B. C. 1621, that of the fourth October 9 B. C. 1591, and that of the fifth October 9 B. C. 1561. And this having been the year of the Plagues, from July 15 B. C. 1561, that of the first, to April 9 B. C. 1560, that of the last, it is here to be observed that, as the plague of the first born, at midnight on this day, was expressly directed against the first born of cattle, as well as those of men<sup>k</sup>, it would necessarily include among its victims the new born representative of this fifth Mneuis cycle, the epoch of which was only six months earlier, October 9 B. C. 1561. And the unexpected extinction of the living type of

<sup>f</sup> Exod. vii. 19–25.      \* Pag. 95      <sup>h</sup> Cf. Fasti, iv. 161–168.      <sup>i</sup> Appendix, note CC.      <sup>k</sup> Exod. xi. 5 : xii. 12, 29; xiii. 15. Numb. xxxiii. 4. Ps. cxxxv. 8 : cxxxvi. 10. Cf. Joshua, xxiv. 14. Ezek. xx. 7, 8.



the cycle in the very first year of its decursus would compel the Egyptians, if the reckoning of such cycles was still to continue, to begin a fresh reckoning from a new epoch—which, it is evident, could be only the second year of the old one. The same thing happened again, many centuries later, in the time of the Apis cycle. The living type of this cycle also having been cut off by the act of Cambyses in the very first year of its decursus; the Egyptians of that time too, having no other alternative left them but that of abandoning the reckoning of such cycles from this time forward altogether, or of carrying it on as before from the second year of the old reckoning, adopted the latter; and what *they* are seen to have done at *that* time, the Egyptians of *this* day may very well be supposed to have done, under the very same circumstances, at *this*.

vii. And that the cycle of 30 years did go on among the Egyptians, in connexion with the worship of the Mneuis, after the Exodus as much as before, only from this new epoch of B. C. 1560, instead of B. C. 1561, is placed out of question—i. By the date of the cycle, alluded to *supra*<sup>1</sup>, as attested by contemporary history in the reign of Ptolemy Epiphanes, that of October 9 B. C. 210, just 1350 years, (45 cycles of 30 years,) from October 9 B. C. 1560, but not from October 9 B. C. 1561. ii. By what has been demonstratively proved in the *Origines Kalendarie Hellenicæ*<sup>m</sup> of the Minotaur or Minos-Bull, and the octaëteric correction, of Minos in Crete, B. C. 1260—that this Minos-Bull was simply the Mneuis-Bull of the Egyptians, introduced by Minos into Crete, and associated there with a cycle of eight years, as it had always been in Egypt with one of 30 years, but so that the first of these eight years cycles in Crete took up and continued the last of the 30 years cycles in Egypt until then; yet from this epoch of B. C. 1560, not from that of B. C. 1561. For from October 9, B. C. 1560, supposed to have been the date of the first of a series of this kind in Egypt, to September 23 B. C. 1260, the first of a series of the other kind in Crete, there were just ten cycles of 30 years (300 years) complete.

ii. Thus much on the true age or antiquity of the Mneuis of Heliopolis. Let us now pass to that of the Apis of Memphis.

On this question we may begin with observing i. that, according to some of the Egyptians, the Apis was the son of the Mneuis; and consequently could not possibly have been as old as the Mneuis<sup>n</sup>. But though this account of its origin may have been founded on the fact that the first idea of the Apis was very probably suggested by the prior existence of the Mneuis, still, without insisting on this objection, we may go on to observe, ii. that, as it is acknowledged on all hands<sup>o</sup>, that the Apis from the moment of its coming into being had a special relation to Osiris, and in fact was a supposed incarnation of Osiris<sup>p</sup>, it could not possibly have been older in Egypt than Osiris, nor therefore than B. C. 1350. iii. It is still more unquestionable that the Apis must have had a special connection with its own cycle—that the Apis was the living representative of the cycle called after it, from the first. And that having been the case, the question of the age or antiquity of the Apis among the Egyptians is simply that of the antiquity of the Apis cycle among them also.

And on *this* question, I begin with admitting that, even in this special and restricted relation, the Apis cycle was still the lunar and solar cycle of 25 equable years, and that the natural lunar cycle of the equable solar year, associated with it too in the primitive calendar from the first, was that cycle also. I am consequently ready to admit that even the Apis cycle properly so called might have been associated with the primitive solar calendar of the beginning itself, if a living type of the cycle had been associated with it also from the first. But of such an association there is no proof, neither in Egypt nor any where else, before an historical point of time, some thousands of years later than the beginning of the decursus of equable solar and equable lunar time in this form of the 25 years cycle. And it would have been well if chronologers had agreed to call this natural lunar cycle of

<sup>n</sup> Fasti, ii. 484 : iv. 149 iii. : iv. 150.      <sup>o</sup> Bunsen, *Standing of Egypt*, i. 430.

<sup>p</sup> Fasti, ii. 501 sqq. 533.

the equable solar year, as still unassociated with an animal type of itself, by the name of the *Eicosipenteteris*, and to restrict that of the Apis cycle to this period of 25 equable years, as associated with, and represented by, the Apis. What *we* at least have to investigate and ascertain at present is, not the age or antiquity of the primitive lunar and solar cycle of 25 years, but that of the Apis cycle.

ii. And even for this purpose, I proceed to observe, two data only (both of them as it happens supplied by testimony) in strictness would be necessary—one, the natural prejudice of the Egyptians in favour of one particular lunar epoch, the lunar 4<sup>a</sup> or lunar 3<sup>a</sup>, the other, the first year of any one Apis cycle. The former would help us to the probable lunar date of the Apis cycle from the first; the latter would fix a cardinal point in the decursus of the cycle, either backwards or forwards. The former of these is known from the testimony of Pliny the Elder<sup>q</sup>, and is confirmed by the true explanation of the preference itself, brought to light by our inquiries<sup>r</sup> *supra*. The latter we learn from Herodotus' account of the Æthiopic expedition of Cambyzes<sup>s</sup>.

And these two data, thus supplied by different authorities, independently of each other, work together towards the desired discovery as follows: The year of the expedition, as I have shewn<sup>t</sup>, having been either B. C. 524 or B. C. 523, the traditionary epoch of lunar time among the Egyptians, applied to the former, gives the epoch of the first year of the current Apis cycle Thoth 20; applied to the latter, gives it Thoth 11<sup>v</sup>: between which we cannot hesitate to fix on Thoth 11 B. C. 523, as the true epoch of such a cycle.

And though it must be admitted that even Thoth 11 this year, Nab. 225, must have fallen on the Luna 5<sup>a</sup>, not on the Luna 4<sup>a</sup> or 3<sup>a</sup>; yet as even that was the case at *this* time, simply as a consequence of its having fallen some time or other before this, on the Luna 4<sup>a</sup>, and the Luna 3<sup>a</sup>—to find *that* time we go back, *ist.* 200 equable years, eight Apis cycles, from Thoth 11, Nab. 225, B. C. 523, to Thoth 11, Nab. 25, B. C. 723—and *there* we get to the epoch, when Thoth 11 was first beginning, in the first year of the cycle,

<sup>q</sup> Fasti, ii. 523. Orig. Kal. Hell. iii. 541.

<sup>r</sup> Page 39.

<sup>s</sup> Fasti, ii. 519.

<sup>t</sup> Ibid. 514-522.

<sup>v</sup> Ibid. 520-522.

to fall on the Luna 5<sup>a</sup>. ii. We go back next 125 equable years, five Apis cycles, from Thoth 11 of this epoch, to Thoth 11, Æra Cyc. 3159, B. C. 848, and *there* we get to the time when Thoth 11 first began to fall on the Luna 4<sup>a</sup>. iii. We go back another 125 equable years, five cycles, from this epoch also, to Thoth 11, Æra Cyc. 3034, B. C. 973, and *there* we get to the time when this same equable solar term was first beginning to fall on the Luna 3<sup>a</sup> x.

And at this stage of the *Reditus retro* with the historical Apis Cycle, let us compare the decursus of the Primitive *Eicosipenteteris*, brought down to this same point of time, Æra Cyc. 3034, B. C. 973, from Æra Cyc. 1, B. C. 4004. I have drawn out the scheme of this decursus, in my *Fasti* y. It will be seen from it that this year, Æra Cyc. 3034, B. C. 973, was the *ninth* year of the cxxiind cycle, from the first; the solar epoch of which was still the same as it had been all along, Paüni 17, and the lunar, at this time too, was only one term lower than what it had been at first; the Luna 3<sup>a</sup> at *this* time, as it was the Luna 4<sup>a</sup> at *that*. And Paüni 17, the Luna 3<sup>a</sup>, being the regular date of the *first* month in this year of the cycle, Æra Cyc. 3034, Thoth 11, the Luna 3<sup>a</sup>, May 1, B. C. 973, would be that of the *fourth* month.

Now if, for any conceivable reason, the Egyptians of this time were thinking of instituting a new reckoning of the cycle of 25 years, intended indeed to be derived from the old one of the time being, but ever after to go on by itself, in conjunction with something which had not accompanied it before—viz. a living animal representative of the cycle in the person of the Apis—there is no reason, discoverable at present, why they might not take the first year of this new succession from the ninth year of the old, and the first day of the first month in this new reckoning of the cycle, from the first of the fourth in the corresponding year of the old. *That* would depend on circumstances, over which they themselves might have had no control. This assumption however is the only thing necessary to connect the decursus of the Primitive *Eicosipenteteris*, traced uninterruptedly downwards, according to its proper law, from Thoth 8, Æra Cyc. 1, May 2,

x Cf. *Fasti*, ii. § 23-§ 28.

y iv. 368-386.



B. C. 4004, (the Luna 4<sup>a</sup> of that epoch dated from the change, the Luna 3<sup>a</sup> dated from the phasis,) with the course and succession of the Apis cycle, traced back from Thoth 11, Æra Cyc. 3483, Nab. 225, Jan. 11, B. C. 523, (the Luna 5<sup>a</sup> of that epoch dated from the change, the Luna 4<sup>a</sup> dated from the phasis,) to Thoth 11, Æra Cyc. 3034, May 1, B. C. 973.

And as to the reasons which might possibly have influenced them to think of a fresh institution of this kind, at *this* time in particular, one might have been the correction required at *this* time, by the mean lunar standard of the Primitive cycle itself, which, by B. C. 973, had come to be one second of mean solar time at least in excess of the truth<sup>z</sup>. Another, and a more influential one, might be the return of solar and lunar time, as combined in this cycle perpetually, in the ninth year of the exxiind cycle, as nearly as possible to the relations of origination. The original solar date had been Thoth 8, the original lunar one, the Luna 4<sup>a</sup>, Æra Cyc. 1—both, May 2 Julian, B. C. 4004. The solar epoch of the fourth month of this year of the exxiind cycle, regularly derived from the original one, was Thoth 11, the Lunar, similarly derived, was the Luna 3<sup>a</sup>, Æra Cyc. 3034. Both were the Julian May 1 of this time, B. C. 973, as both had been the Julian May 2, B. C. 4004<sup>a</sup>.

A third, and very probably the principal, reason might have been a political one, arising out of some revolution in Egypt itself—some change of dynasty there, from the old Pharaonic succession, to a totally different line<sup>b</sup>, the commencement of which it might have been proposed to inaugurate, by the foundation of a city, destined to be the capital of all Egypt, and by the consecration of this new city to Osiris, through the supposed incarnation of Osiris, in the person of the Apis, as the future guardian, patron, or tutelary genius of this new capital of Egypt; and consequently with a corresponding reckoning of the cycle of 25 years, as the measure of the life of the Apis in this his relation to Osiris. For that these must have been the circumstances under which the city of Memphis came into being originally, will be seen I hope by and by<sup>c</sup>.

<sup>z</sup> Fasti, iv. 386-395.

<sup>a</sup> Ibid. 395 seqq.

<sup>b</sup> Ibid. iv. 445.

<sup>c</sup> Fasti, ii. 533 : iv. 443 seqq.

iii. The epoch however of this first Type of the historical Apis cycle, having been fixed, for whatsoever reason, *de facto* to Thoth 11, Æra Cyclica 3034, May 1, B. C. 973<sup>d</sup>, I have traced it downwards from this epoch of origination, according to its proper law and proper rule of administration, and have confirmed it at the various periods of its decursus by the necessary proofs from the matter of fact; as, i. By the testimony of Scripture, and the Scriptural date of the idolatrous feast of Jeroboam, taken from the very first Natales Apidis in Egypt—those of this year of the epoch, B. C. 973<sup>e</sup>. ii. By the date of the viiith cycle of this Type, B. C. 798, recovered from the zodiac of Denderah<sup>f</sup>. iii. By the Natales Apidis of the xiiiith cycle, B. C. 673, just before the beginning of the reign of Psammitichus<sup>g</sup>. iv. By the contemporary testimony of Ezekiel viii. 1–18. to the proper reckoning of the xvith cycle, B. C. 594–593<sup>h</sup>. v. By the cycle of the time of Cambyses, xix. 1. B. C. 523, alluded to *supra*<sup>i</sup>. vi. By other arguments and considerations<sup>k</sup>.

iv. The first Type of the Apis cycle having thus been traced and verified as low down as the ingress of cycle xix. 1, and the first Natales Apidis of this cycle<sup>l</sup>; the death of the Apis itself in this first year, so soon after, as I have already observed<sup>m</sup>, compelled the Egyptians to begin a new reckoning, and consequently to institute a new Type, of the cycle in the second year of the old cycle. And the regular solar date of that year in this type having been Epagomene 5, (as that of the first year was Thoth 11,) the recognised epoch of this second reckoning and second type of the historical Apis cycle turns out to have been Epagomene 5, Nab. 225, Dec. 31, B. C. 523<sup>n</sup>. And this type too has been traced by me, from this time forward, and verified by the necessary proofs, i. Both by particular ones of their kind, cycle ix. 1. B. C. 323<sup>o</sup>, and cycle ix. 18. B. C. 306<sup>p</sup>; and, ii. By general proofs, cycle xx. 1 B. C. 498<sup>q</sup>, cycle xxiv. 1. B. C. 398<sup>r</sup>, cycle xxvi. B. C. 348<sup>s</sup>.

<sup>d</sup> Cf. Fasti, ii. 543. <sup>e</sup> Ibid. ii. 528 sqq. <sup>f</sup> Ibid. iv. 301. 305 sqq. 329. <sup>g</sup> Ibid. ii. 544. <sup>h</sup> Ibid. ii. 550 sqq. <sup>i</sup> Page 154. cf. Fasti, ii. 559. <sup>k</sup> Cf. Fasti, iv. 262–348. 368–403. <sup>l</sup> Fasti, ii. 559. 564. <sup>m</sup> Page 152. <sup>n</sup> Fasti, ii. 566. <sup>o</sup> Ibid. <sup>p</sup> Ibid. ii. 567. Orig. Kal. Hell, iii. 540–545. <sup>q</sup> Ibid. ii. 569. <sup>r</sup> Ibid. ii. 571. <sup>s</sup> Ibid. ii. 572.

v. And this second type also having been prematurely brought to an end, not indeed by any violence from without, but by the act of the Egyptians themselves<sup>t</sup>, in order that a new reckoning of their own national cycle might begin and proceed *pari passu* with the Macedo-Egyptian correction of the sixth type of the old Hellenic Octaëteris, just coming into being in Egypt, at the same time, under the auspices of the first of the Macedonian kings, Ptolemy Soter or Lagi—a third type is found to have taken its rise on Mesore 30, Cycle ix. 18 of the preexisting type, Nab. 442—the Julian date of which, and that of the Macedo-Egyptian Dios 1, Period i Cycle i. 1 of its proper calendar, were absolutely the same, Nov. 2, B. C. 306<sup>v</sup>.

And this third type too has been traced from this epoch, and verified by a great variety of proofs; as, i. By the testimony of Theon, the commentator on Ptolemy<sup>x</sup>: ii. By that of the Rosetta stone<sup>y</sup>, B. C. 196: iii. By the institution of the Sarapea, Pachon 2, Cycle ii. 1, B. C. 281<sup>z</sup>: iv. By Cycle xii. 1, Nab. 717–718<sup>b</sup>: v. By the date of the Nativity, Cycle xiii. 2, Nab. 743, 744<sup>c</sup>: vi. By Cycle xiv. 1, Nab. 767, A. D. 20<sup>d</sup>: vii. By the date of the Passion, taken from this type, A. D. 30<sup>e</sup>: viii. By the Marmor Tripolitanum, and the Jewish feast of Tabernacles at Berenike, A. D. 25<sup>f</sup>: ix. By the date of the feast of Tabernacles in Egypt, A. D. 38<sup>g</sup>: x. By the date of the Nativity, A. D. 127, taken from this type<sup>h</sup>: xi. By the correction of the Thesmophorian dates among the Athenians, A. D. 127<sup>i</sup>: xii. By the Natales Apidis, Cycle xvi. 1 of this type, A. D. 70–71<sup>k</sup>: xiii. By the xviii<sup>th</sup> Cycle, in the time of Adrian, A. D. 120<sup>l</sup>.

vi. In addition to these three types, the succession of which, one after another, is capable of being thus traced historically from B. C. 973 to A. D. 120, where contemporary testimony to the existence and actual use of the last of them first begins to fail us; should that failure be supposed attri-

<sup>t</sup> Fasti, i. 604–607. ii. 573–581: Origg. Kal. Hell. iii. 540 sqq.      <sup>v</sup> Fasti, ii. 573: Origg. Kal. Hell. iii. 540.      <sup>x</sup> Origg. Kal. Hell. iii. 555.      <sup>y</sup> Ibid. iii. 545: Fasti, ii. 581.      <sup>z</sup> Ibid. iv. 404 sqq.      <sup>b</sup> Fasti, ii. 585.      <sup>c</sup> Ibid. 586.      <sup>d</sup> Ibid. ii. 587.      <sup>e</sup> Ibid. ii. 589. cf. Origg. Kal. Hell. iii. 552–554.      <sup>f</sup> Fasti, ii. 588: Origg. Kal. Hell. iii. 584–589. cf. Prolegomena ad Harmon. iii. 152–167.      <sup>g</sup> Fasti, ii. 589. Prolegomena, iii. 167: Origg. Kal. Hell. iii. 554.      <sup>h</sup> Fasti, ii. 590: Origg. Kal. Hell. iii. 554: Prolegomena ad Harmon. iii. 145.      <sup>i</sup> Fasti, ii. 590: Origg. Kal. Hell. iv. 274 sqq.      <sup>k</sup> Fasti, ii. 593.      <sup>l</sup> Ibid. ii. 596.

butable, as it probably is, partly, if not principally, to the increasing spread of Christianity in Egypt as well as every where else—yet it is to be remarked, as a curious coincidence, that no sooner had Julian the Apostate succeeded to the throne of Constantine, and the old paganism felt itself emboldened to lift up its head once more, and to shew its face openly in its old haunts, than we discover the proof of an attempt to revive the worship of the Apis, and to begin a fresh reckoning of its proper cycle, in the very first year of the reign of Julian<sup>m</sup>—which, if the attempt had succeeded, would probably have been found bearing date Mesore 25, Cycle xxvii. 18 of the third type, Nab. 1109, May 14, A. D. 362. But the death of Julian the next year no doubt extinguished the hopes of the projectors of this scheme; and from this time forward both the Apis and the Apis cycle, so far as I know, disappear from the page of history for ever.

iii. With respect to the deification of the Goat of Mendes; we have not the means of putting the tradition of the dynastic history on that point to the same crucial test as on each of the other two; but only because, of the particular history of *this one* of the sacred animals of the Egyptians, nothing is discoverable at present in any other quarter, beyond the mere fact of its existence among the Egyptians, and of the class of animals to which it belonged. I have shewn however<sup>n</sup> that the first idea of the Arcadian Pan (the Hermo-Pan or Ægipan of classical mythology), which came into being among the Arcadians along with their proper octa-ëteric correction, Dec. 26, B. C. 493, was probably derived from that of the Egyptian Chemmis, whose animal type or symbol was this Goat of Mendes. And both these ideas being ultimately resolvable into that of the Ægipan or Capricorn of the sphere<sup>o</sup>, it is far from improbable that, even among the Egyptians, the goat was not conceived or proposed in this relation of the type of the sun at the winter solstice, before the time when the first of Thoth was falling at the winter solstice, and even on the winter-solstitial day itself. And that, by a singular coincidence, was the epoch of the Arcadian lunar correction itself, Dec. 26, B. C. 493.

<sup>m</sup> See Fasti, ii. 599 sqq.

<sup>n</sup> Orig. Kal. Hell. iv. 619.

<sup>o</sup> Fasti, iii. 392 and *note*.



It is observable however that while these three animals, the Bull of Heliopolis, the Apis of Memphis, and the Goat of Mendes, were recognised as if in existence and esteemed sacred thus early in the dynastic history, nothing appears to have been said of the Ram of Thebes, No-Ammon or Diospolis, though that was as remarkable an animal, belonging to the class of sacred among the Egyptians, and stood in as particular a relation to the sun, as any besides. I have no doubt this silence was intentional—and I think I have probably assigned the true explanation of it<sup>p</sup> in the fact that the deification of this animal in particular, as the symbol of the sun of the vernal equinox, though made as early as B.C. 889—and made at Thebes, and probably intended to be confined to Thebes and the Thebaid—was accompanied also with an innovation of another kind, of which the priests of lower Egypt—and those of Memphis in particular—did not, and could not approve; that, viz. of the substitution of the Julian solar year and the Metonic lunar cycle, instead of the Primitive equable solar and lunar reckoning. There were other grounds of discord between the two principal divisions of the sacerdotal caste, in Egypt, (and of much older standing too.) at this time; but this alone was reason sufficient why the priests of Lower Egypt—to whom the author of the dynastic history, as we may see by and by, belonged—should studiously ignore the very existence of the Ram of Thebes. And I have little doubt, it is from the time of this innovation also, that we are to date the introduction of that particular clause into the coronation oath of the kings—which made a stated part of the ceremony of the ἐνθρονισμὸς or installation, as regularly celebrated at Memphis<sup>q</sup>—whereby they bound themselves never to introduce the intercalary day, (that is, the principle of the Julian reckoning,) into the old equable year.

SECTION III.—*On the Monumental and the Dynastic history of the Egyptians, its factitious character from the first, and its probable author or authors.*

The veracity of the Dynastic history of the Egyptians is so completely and unequivocally committed on no one point, as

<sup>p</sup> Fasti, iv. 213 sqq. 230–237.

<sup>q</sup> Fasti, ii. 388.

on that of the origin and the antiquity of Memphis—and this too is a simple question of fact, on which I do not hesitate to join issue with it.

According to this History, Menes, the founder of the Dynasties, was the founder of Memphis also; and Memphis consequently was as old as the first of the Dynasties, which, according to their own chronology went back as far as B. C. 3901—only 103 years short of the Mosaic creation itself.

i. In objection to this account of its antiquity generally, it might be demanded, If Memphis was thus incomparably the oldest city in Egypt—and yet the greatest of all, and the capital of the country, from the first—by what accident it could have happened that its very existence should be unknown, even to Greek mythology, before the rise of the fable of Io and Epaphus<sup>r</sup>; and unknown to Greek history even so late as the time of Homer, B. C. 910<sup>s</sup>; and unknown to, or at least unnoticed by, Scripture history, though among the Jews so near to Egypt, before the time of Hoshea or Isaiah, one or two centuries later even than that of Homer<sup>t</sup>?

ii. In objection to the same representation specifically, it may be observed, i. That even as recognised in history—as known to its contemporaries or to posterity—even as a real city, the greatest in Egypt of the time being, the residence of the kings, and the metropolis of the country—still Memphis is never alluded to except by the name of Memphis; and we may take it for granted never had any name but that of Memphis. It came into existence under this name, and as long as it continued in existence, it never ceased to retain this name. ii. That as an actual city, and under this name of Memphis, it was never known either in Egypt or out of Egypt, except as standing in a peculiar relation to the Apis, and through the Apis to Osiris—i. e. as the city of the Apis, and through the Apis, the city of Osiris. That the Apis, in short, and Memphis, were connected from the first, and in the same kind of relation to each other, as the Mneuis and On or Heliopolis<sup>v</sup>. iii. That this traditionary account of the relation of the Apis and Memphis to each other from

<sup>r</sup> Cf. Fasti, iv. 453 sqq.

<sup>s</sup> Ibid. 442. Orig. Kal. Hell. vi. 289–500.

<sup>t</sup> Fasti, iv. 453 n.

<sup>v</sup> Ibid. 438 sqq.

the first is confirmed by the name of Memphis itself, from the first also—That Memphis, the name best known to history both at present and in all former times, is simply the Greek form of the native Egyptian name, which occurs on coins in that of *Μένφης* also <sup>x</sup>—That this native Egyptian name was Menofri, out of which the Greeks made *Μένφης* and *Μέμφης*, and Scripture, *Nofy*—and of the truth and reality of which, as the vernacular name of Memphis from the first, I have myself pointed out a singular confirmation in that of the Italian Minerva, derived from it <sup>z</sup>—That this native Egyptian name of Me-nof-ri, resolved into its component parts, is explained to mean, “The abode of good <sup>a</sup>”—or, as some of the learned in the language of the Monuments and Sculptures <sup>b</sup> at the present day contend it should be rendered, “The abode of the good one,” “The abode of the beneficent one”—a name which could not have been given it except as the abode of Osiris.

It follows from these facts that, unless Memphis was older than its own name, and older than every relation to something else implied in its own name, it could not have been older than the time when it first became the abode of Osiris in the person of the Apis, nor consequently than the rise of the Apis cycle, B.C. 973. And this leads us at once to the inference that, if this city was really founded by one of the kings of Egypt, it must have been by that one in particular who was reigning when the fable of the incarnation of Osiris in the person of the Apis, and the cycle which measured the existence of the Apis in that relation to him, both came into being together. And if the date of this fable, with its accompanying institutions and circumstances, was B. C. 974 and 973 <sup>c</sup>—and the king who was reigning in Egypt both in the reign of Solomon, before B. C. 974, and in that of Rehoboam, four or five years after at least, according to the testimony of Scripture was Shishak—Shishak, and Shishak only, as having been contemporary with the rise of the fable of Osiris and the Apis, and the institution of the Apis cycle, must have been the founder of Memphis. And that fact, as

<sup>x</sup> Bunsen, *Standing of Egypt*, ii. 53.

ii. 16 : xlv. 19.

439, 440.

<sup>z</sup> Origg. *Kal. Hell.* iv. 143 n.—145.

<sup>b</sup> Marietti, for instance.

<sup>y</sup> Fasti, iv. 453 n. cf. *Jeremiah*,

<sup>a</sup> Fasti, iv.

<sup>c</sup> Fasti, ii. 528 sqq.

I have shewn<sup>d</sup>, supplies the best explanation of his motive to the invasion of Judæa, in the fifth year of Rehoboam, B. C. 970, and consequently four or five years after the beginning of the foundation; viz. a desire to get possession of the means of finishing an undertaking of such magnitude as the building of Memphis, by seizing, and carrying away to Egypt, the treasures of Solomon.

iv. From these facts then, and others of like kind, adduced and substantiated in the *Fasti* and *Origines*, no one, I think, can hesitate to draw the inference, That before B. C. 973, both the Apis and the Memphis of the Egyptians must have been simply nonentities—before B. C. 1350, the Osiris and the Isis of the Egyptians must have been simply nonentities—before B. C. 1681, the Mneuis of the Egyptians must have been simply a nonentity—while, as to the Dynasties of the ancient Egyptians, at no period of their supposed decursus, could *they* have been any thing but mere and simple nonentities.

And the historical existence of the pretended founder of these imaginary Dynasties, (himself the first in the whole series of the kings of whose reigns they were supposed to consist) being thus necessarily liable to be called in question; it becomes an obvious conjecture that, after all, this conception and this name of the Menes of the Dynasties were simply the idea and name of the first and oldest of the sacred animals of the Egyptians, in this fictitious history treated as a person, and represented as the first and oldest king and legislator of the Egyptians<sup>e</sup>. Certain at least it is that the proper name of this oldest of their sacred animals in the ancient Egyptian was MN or MNE<sup>f</sup>. And from the latter of these MNE, with no change in it but that of the addition of a proper termination, it is certain the Greek language might easily get MNEYIS or MNEYHS; or by simply reading it backward, MEN for MNE, and with or without the addition in question, might get both MHN and MHNHS. It is certain too that under one or other of these appellations, MHN or MHNHS, MNEYIS or MNEYHS, must this pretended first king or first legislator of the Egyptians have first become known to

<sup>d</sup> *Fasti*, iv. 443 sqq.  
Kal. Hell. iv. 473.

<sup>e</sup> Cf. *Diodorus*, i. 94.

<sup>f</sup> *Fasti*, iv. 170. *Orig.*



the Greeks; for they call him by no other but one of these. Herodotus calls him ΜΗΝΞ, Diodorus ΜΝΕΤΗΣ<sup>h</sup>.

v. And with respect to the Dynastic history in general, if its most fundamental assumptions are thus demonstratively proved to have had nothing to rest upon, we have no alternative but to conclude that the whole superstructure of pretended history, based on such assumptions, can have as little claim to the name and authority of real, as the foundation on which it is built. And though it would make no difference to this conclusion respecting the true character of a system which must stand or fall in its totality, and is flatly contradicted by real history at its very outset, whether, at this distance of time, we could explain the motives out of which it arose, or conjecture the author to whom it was to be attributed, it so happens that in the present instance there is not much difficulty in doing either of these things.

And first with respect to the author—there are two reasons which incline me to be of opinion that, if this whole system of ancient history and chronology, which goes by the name of the Egyptian Dynasties, is a pure and simple fabrication from first to last, and therefore, as it must be presumed, the work of some Egyptian in general, that native Egyptian was probably Manetho the Sebennyte<sup>i</sup> in particular. One is, the character of the man himself, which stands branded in contemporary history by complicity with another scheme of fraud and imposture, not indeed on so great a scale as this, yet a fit prelude even to this; and a more decisive proof of the want of principle and of the disregard of truth and honesty in an accomplice of such a scheme, even than this: the scheme concerted B.C. 281, between the Greek and the Egyptian priests in Egypt, of which I had occasion to give an account in the history of the Sarapea<sup>k</sup>, for palming the Pluto of the Greeks on the native Egyptians as their own Osiris of the Amenthes, and for introducing the worship of Sarapis as that of an old and familiar divinity under a new name, merely to humour the caprice or superstition of the second Ptolemy.

The other reason is, that no such system of Egyptian his-

<sup>g</sup> ii. 99.

<sup>h</sup> i. 94.

<sup>i</sup> Cf. Bunsen, i. 56.

<sup>k</sup> Fasti, iv. 422, 423.

tory as this of the Dynasties, in its totality, appears to have been known to the ancients, except as the work of Manetho; and none such, whether entire or in part, whether in the remains of Josephus, or of Africanus, or of Eusebius, or of Syncellus, exists at present, except as the work, or part of the work, of Manetho. If a system and complex of so called ancient Egyptian history, like this of the Dynasties, the internal evidence of which convicts it so clearly of having been the work of some impostor, never existed heretofore, nor is still known to exist, except under the name of Manetho, and Manetho himself is known to have been capable of the conception and execution even of such a forgery as this, I am persuaded we shall do his memory no great injustice at the present day if we attribute it chiefly to him.

I say however chiefly; because it may still admit of a question, whether even Manetho is really answerable for the first idea of a Pseudo-history and a Pseudo-chronology like this; whether every thing contained in the compilation which went by the name of the Dynasties of Manetho was first invented by him—and whether some of his materials at least might not have been previously in existence, and ready to his hand, before he set about this scheme of embodying every thing which bore on such a subject, in one complete and comprehensive system of his own. So-called lines and series of early Egyptian kings, as they are supposed, are discoverable (in the hieroglyphical character) on the Monuments and Sculptures also; those especially which must have been most closely connected with the ancient Thebes, and the Thebaid<sup>1</sup>; and these too the learned in Egyptian antiquities, and in the language of the hieroglyphics, pretend to identify with corresponding parts of the Dynasties of Manetho. And though there is probably no more of reality in the Monumental history of the Sculptures than in the Dynasties of Manetho, yet the invention of the hieroglyphic, as the vehicle of such an history in particular, B.C. 889<sup>m</sup>, was much older than Manetho; and it is far from improbable that the use to which it had been put from the first, with an interested object in view, first suggested to Manetho his own scheme of a

<sup>1</sup> Bunsen, *Standing of Egypt*, i. 35-37. 45. 48. (cf. 97.) 50, 51. 117, 118: ii. 37. 113.

<sup>m</sup> Cf. *Fasti*, iv. 222: iii. 168.

much more comprehensive system of the same kind, and supplied him even with many of the materials which he must otherwise have invented for himself.

And this brings us to the second question, which we proposed to consider, the probable end and design of this factitious system of Egyptian history and chronology in general, and the motive in which it originated. With respect to which I observe that, if the first idea of the Dynasties is thus to be traced up to the hieroglyphical history of the Monuments and Sculptures, I cannot help thinking that, unreasonable as it must appear to call upon any one at the present day to explain all the acts of human fraud or folly, done in time past, yet in this particular case of a fabrication of history to serve a particular purpose, and whether on a greater or a larger scale, supposed to have taken its origin among the priests of Upper Egypt, I have already assigned a matter of fact, abundantly competent to account for it, in the rise of Memphis, B. C. 973, under the auspices of Shishak, the reigning king, and with the cooperation of the priests of Lower Egypt, and even with the pretended approbation and sanction of Osiris himself, as the future capital of all Egypt, and in the scale of grandeur and magnificence on which it was coming into being, worthy to be so—and in the jealousy which that fact alone was calculated to excite in the priests of Upper Egypt, and especially of Thebes, which until then was the principal city, and in point of size, and wealth, and population, as well as of influence and importance, was without peer or rival in all Egypt, and the acknowledged metropolis of the whole country.

There might have been other reasons of a political kind, for which the acts of Shishak in particular might have been offensive to the priests of Thebes; especially if his accession to the throne at this time had been the effect of a revolution, which had deposed the old Pharaonic line of kings, and had installed an usurper in its stead. And certain it is that Shishak is the first of the kings of Egypt, of whom mention is made in Scripture history under a proper name, and no longer under that of Pharaoh, or “the king<sup>n</sup>.” But it is

<sup>n</sup> Fasti, iv. 446.

enough to know that through this project of founding, and raising to the dignity of the capital of all Egypt, a new and unheard of city in the heart of the Delta, the ancient rights and privileges, the long established and long acknowledged preeminence, of Thebes was seriously endangered. We should understand little of human nature did we suppose that the pride, the vanity, the self-interest and self-love, of the ruling caste in Upper Egypt, under such circumstances, would not take the alarm, and impel them to do something possibly even as extravagant, and to our own apprehensions at present, as unaccountable, as what they appear to have actually done, viz. invent the hieroglyphic character, and cover their temples, their public buildings of all kinds, and even their rocks and caves, and sepulchral vaults, far and wide, with those mysterious symbols. It is at least a matter of fact, and a remarkable one too, that the Monuments and Sculptures, properly so called, and every thing upon them, which when decyphered is found to relate to ancient Egyptian history, have been discovered chiefly, if not exclusively, in Upper Egypt, and amidst the dependencies of ancient Egyptian Thebes—and little or nothing of the same kind has been found in the Delta. This is a strong ground of presumption that the whole of this monumental history, in its original conception, was a contrivance of the sacerdotal caste in Upper Egypt to answer an end and object of their own—in which the priests of Lower Egypt, especially those of On and Memphis, knowing it to be directed against themselves, as much as in behalf of the priests of Thebes, and the Thebaid—could not concur with them, at least at first. This is explained, if its true motive and its sole object originally was to keep up the claims to priority of place and estimation, of Thebes, against those of any rival—to exaggerate its antiquity—its power, and its preeminence—from the first—above those of any city in Egypt besides.

The earliest settlement in Egypt, according to Scripture<sup>o</sup>, was Zoan or Tanis: the next might have been On or Heliopolis—though we do not know for certain that it was so<sup>p</sup>. If On however was in existence before the Descent into

<sup>o</sup> Fasti, iv. 448 n.<sup>p</sup> Ibid. 448 n.



Egypt, and Thebes in Egypt was probably founded in the time of Joseph, and by Joseph himself<sup>q</sup>, it was certainly younger than On. Yet notwithstanding that, through its name of Thebes, meaning the "city of the ark"<sup>r</sup>, it would never want a foundation for a plausible claim of its own to the highest antiquity of any city in the country—and little short of the descent from the ark, and the second Natale Mundi itself.

And this leads me to observe that even when advancing a claim of this kind, and professing to find the proofs of it in their hieroglyphical history and chronology, the priests of Thebes seem to have had something in view which was moderate and reasonable, in comparison of the similar claims afterwards put forward by Manetho in behalf of Memphis. Their highest ambition does not appear to have aimed at more than the attachment of the beginning of the history of their own city in particular to that of society itself in Egypt in general. There is reason to believe, as I have shewn<sup>s</sup>, that they professed to have kept an account of 44 cycles of the period of the white bull of Thebes, 1320 years, but no more—and these, if reckoned back from B. C. 889, the date of their Julian and their Metonic correction, and very probably of the whole of their hieroglyphical system, would reach to B. C. 2209—within 38 years of the Scriptural date of the Dispersion, B. C. 2247, but no more.

Now, it is self-evident that it must have taken some time to bring the first settlers in Egypt, from Mesopotamia to that country. It is evident too that, to get to Egypt by land, they would have to pass through Canaan; and it may be collected from Scripture<sup>t</sup>, that the nearest part of Canaan to Egypt, (where Hebron was situated,) must have been occupied seven years at least before the nearest part of Egypt to Canaan, (where Zoan or Tanis was situated,) could have been. To mention no other possible causes of delay in the first settlement in Egypt in particular, the annual phenomenon of the rise of the Nile, until its nature and its laws had come to be understood, would make the first

<sup>q</sup> Fasti, iv. 242-250.<sup>r</sup> Ibid. iv. 243 sqq.; Orig. Kal. Hell. iv. 100.<sup>s</sup> Fasti, iv. 225-227.<sup>t</sup> Numbers, xiii. 22.

comers, still fresh from the ark, and under an awful recollection of the deluge, shy of advancing into the interior of a country, so liable to be visited every year with something in appearance so like a second deluge.

The phonetic hieroglyphic, as first invented and intended, having been, in my opinion <sup>v</sup>, simply an alphabet of another kind substituted for an alphabet of the common kind, (simply in fact the enchorial alphabet in cypher,) and having been first contrived and applied by the priests of Upper Egypt as a means of conveying to posterity their pretended esoteric history and chronology; it is no wonder that the priests of Lower Egypt, aware both of its factitious origin, and of its intention, should have carefully at first eschewed the use of it themselves. The time indeed did come when they too adopted it, and as the same kind of recognised channel of their earliest history; but not before the calamities brought on their country in general, first by Esarhaddon, next by Nebuchadnezzar, and lastly by Cambyses, (the instruments of the Deity in the infliction of his judgments on Egypt,) had taught all classes of men among them that it was no time to be disputing among themselves about the point of honour, and vying with each other for an imaginary distinction, when the existence of the nation itself was at stake; and if the ancient renown and prestige of Egypt were still to be maintained in the eyes of strangers, all parties must concur in the use of the same means for the same end, whatsoever might be best calculated to promote it.

The paucity of sculptures at least, discovered in Lower Egypt, compared with the number and variety of those which have been found in the Thebaid, is something remarkable. Nor do they appear to have been very abundant in that quarter, when the Greeks first became acquainted with it—any more than at present. The allusions in Herodotus to the hieroglyphical figures or characters, observed there by himself, are very few<sup>x</sup>. But the strongest confirmation of my assertion that such characters and sculptures for a long time were treated in the Delta as exotic, is the fact that nothing of that kind appears to have made part of the Pyramids, at

<sup>v</sup> Fasti, iv. 268 sqq.

<sup>x</sup> ii. 124. 136. 148. 153.

least at first. No hieroglyphics, as old as the oldest of the Pyramids, have yet been discovered either without or within them. Stones indeed have been used in the building of some of them, which had hieroglyphics upon them before they were so applied<sup>y</sup>, but nothing is known of the age of these in particular. Repositories too have been found in them, with inscriptions in the hieroglyphic upon them, implying that these repositories were sarcophaguses or sepulchres, containing the bodies of the builders of these Pyramids themselves. But to suppose a structure like the Great Pyramid of Gizeh, for example, intended simply as a colossal sepulchre, if not confuted by its own improbability, would be so by the internal evidence of its own end and purpose, furnished by the building itself—particularly by the innermost chamber—the architectural beauty, proportions, and execution of this chamber, the careful provision made for its ventilation, the exquisite cistern of porphyry contained in it, the communication between this chamber and the Nile<sup>z</sup>, and its other remarkable peculiarities. To suppose a chamber like that never to have had any destination, nor any use, from the first, except as a sepulchral vault—enclosing a dead body and a tomb—would be simply absurd; but not so to conceive it planned and laid out, as the innermost shrine and sanctuary of a temple, for the sake of which all the rest of the same structure was built—to explain it in short, and understand it, of the mystical *θάλαμος*, dedicated to the union of the two great principles of the Cosmogonic Duad of the Egyptians, Osiris and Isis, and to the first effect of their union in the development of the first and simplest form of life, that of the vegetable kingdom, in and through the element of water, and especially that of the Nile. The artistic finish and execution, the pains and labour, bestowed on such a chamber, would be only in harmony with its character and design, its destination and use, from the first.

On this principle however the first idea of the Pyramids themselves could not have been earlier than that of the Osiris and Isis of the National Fable, B. C. 1350. And it is far from improbable that the very first realisation of such an

<sup>y</sup> Bunsen, ii. 381, 382.

<sup>z</sup> Appendix, note DD.

idea in effect, as I have contended <sup>a</sup>, was the two Pyramids, erected in the centre of the Lake of Mœris <sup>b</sup>, but not before B. C. 1350. On this principle too, we may probably explain the form of the pyramid itself, or why a building of that shape in particular should have been selected as the fittest to enclose such an innermost sanctuary, such a mystical *θάλαμος*, of the two Cosmogonic powers, as we are supposing.

This mystical union of the Cosmogonic principles in the development of vegetable life being effected in every instance through the element of water, and some one or other of the seeds of plants; the seed made choice of for the example and illustration of this process and its effect, above all others, was that of barley or wheat. And what is a grain of barley in its natural state, but a double pyramid? Divide a corn of barley crossways into two equal parts, and you will have two pyramids in miniature—one for each of the two Cosmogonic powers, in this view of their first relation to each other, and first union with each other. The Pyramids of Egypt—those colossal and stupendous structures—are only exaggerated expressions of this simple idea of the divided barleycorn; and even the great Pyramid of Gizeh must own to a prototype in nature, older than itself, yet the same in shape and outline, if not in bulk, with itself; and that simply this half of a barleycorn. Nor is it more extraordinary *a priori*, that the Egyptians should have borrowed the idea of this mystical *θάλαμος*, in the inmost core of the greatest of their pyramids, as the proper seat of the principle of vegetable life in general, from the idea of the same principle of life and activity in the heart of the barleycorn in particular, than that they should have taken the first idea of the *σορός* of Osiris, and of the *κάθειρξις εἰς τὴν σορὸν*, which makes so conspicuous a figure in the fable of Osiris and Typhon <sup>c</sup>, from the cuticle or skin of the grain of wheat or barley also, which, while it is entire, confines the principle of life, and prevents its acting according to its natural tendencies.

The Pyramids too, on these suppositions, could not have been older than B. C. 1350, and probably must have been some centuries later; for ideas like these could not have

<sup>a</sup> Fasti, iii. 197, 198.

<sup>b</sup> Cf. Herod. ii. 101. 149.

<sup>c</sup> Fasti, iii. 186–189.



been conceived and realized simultaneously with the invention of the Fable of the Isia, though it is very possible they might ultimately have grown up out of it. As to their actual age—though doubtless all are not of the same antiquity—no testimony is extant, entitled to any deference, which would make even the oldest of them a thousand years older than the Christian *Æra*. And as I have hinted in the *Fasti Catholici*<sup>d</sup>, it is far from improbable that the principal pyramid was projected, and begun to be built, at the same time as Memphis, near which it is situated; and very possibly in the reign of Shishak too, and with the treasures brought away from Jerusalem by him.

SECTION IV.—*On the true Chronology of Mundane and Human Time, discoverable among the ancient Egyptians.*

Such then being the history, and such the chronology, consigned to the Monuments under the hieroglyphical character, or circumstantially drawn out in the three books of the Dynasties of Manetho, so ostentatiously too paraded before the eyes of the strangers who came among the Egyptians, and so confidently appealed to as a standing proof of the antiquity of their name and nation—and such being the bias and tendency of scepticism at the present day, to rest and to insist upon this, as a real and matter of fact confutation of the Scriptural account of Mundane and Human existence; it is, in every point of view, a Providential circumstance that, even among these Egyptians themselves, another system of chronology is discoverable, as different from *this*, as *this* is from that of Scripture; and good reason why, inasmuch as this other scheme of Egyptian chronology and that of Scripture are absolutely the same.

If then it be demanded, Where is this chronology to be found? or, How has it happened that so little should have been known of it hitherto? I answer—It is the chronology embodied in the CYCLES of the ancient Egyptians—the chronology which we enucleate from the history, the analysis, and the explanation, of their principal cycles, the MNEVIS cycle, the ARIS cycle, and especially the PHÆNIX cycle—and,

<sup>d</sup> iv. 447.

if nothing has hitherto been known of this chronology, it is because nothing, or next to nothing, has hitherto been known of these cycles. Add to which, that this chronology itself, unlike that of which we have just been treating, was not one which the Egyptians were likely to have proclaimed to all the world. There was nothing in it calculated to flatter their national pride, to keep up the prestige of their pretended antiquity and greatness from the first, in comparison of that of all their contemporaries elsewhere: it would simply, if known, have put them on a level with the rest of the world. It was something therefore which they carefully kept to themselves—the most esoteric part of their traditionary knowledge of the past—the greatest of all their secrets, confined to the schools and colleges of the priests, and disclosed even there only to the most trustworthy of their disciples.

The account, which has been given of the Mneuis cycle, is demonstrative that, from the proper epoch of this cycle, A.M. 2324, B.C. 1681, downwards, the Egyptians must have had as correct a reckoning of Mundane time in the regular decursus of that cycle, as that of Scripture itself; and that the true year of the Exodus from Egypt, B. C. 1561–1560, is as capable of being ascertained from this cycle as from Scripture itself. The account of the Apis cycle, in like manner, proves that in the reckoning of the cycle of 25 years from its historical epoch, Thoth 11, *Æra Cyc.* 3034, May 1, B. C. 973, as taking up and continuing the cxxiid cycle of that kind from the first in the *ninth* year, and the *fourth* month of the *ninth* year, of its decursus, they had as true a chronology of the *Æra Mundana* in primitive solar and primitive lunar time as that of our own *Fasti*, or, in other words, as that of Scripture itself.

But that one of their cycles which does most to bring out in the clearest light, and in the most striking manner, the true and correct idea of their own system of things, and of the past history of their own world, which must have been possessed by the Egyptians, until they themselves came deliberately to ignore it, and to substitute a false and factitious counterfeit, of their own devising, in its stead, is their PHÆNIX cycle.

The history of this cycle was the principal subject of the

first Part of this work, to which I have so frequently had occasion to refer, under the name of the *Fasti*. It was in fact, if not the exclusive subject of that Part, yet the most important, the most prominent, the most circumstantially treated of, of the whole of its proper argument. The reader therefore, who is desirous of knowing the entire history of this cycle, as far as my own inquiries have succeeded in bringing it to light, and the proofs by which it is substantiated throughout, must necessarily be referred to my *Fasti*. All that can reasonably be expected from me at present, in recurring to the same subject here, is to go over the ground again as summarily, but as intelligibly, as the nature of the case may permit; stating the results of my former inquiries, on every point of real importance to a complete knowledge of the history, the rule, the administration of the cycle, and, in a general way, the steps of the process also by which I arrived at them.

i. Then, to begin with the question of the *epoch* of the cycle; and first, in terms of the *year*. It has been shewn<sup>e</sup>, i. That three appearances, or supposed appearances, of the Phoenix itself having been all which even the Egyptians themselves professed to have on record historically, and the Phoenix never having been supposed to be seen at all, except at the end of one of its proper cycles and the beginning of another; we were justified in inferring from this admission that the number of distinct Phoenix cycles also, of which the Egyptians had kept an actual account, could not have been more than three. ii. That as the *third* of these appearances professed to be connected historically with the reign of the third Ptolemy, (Ptolemy Euergetes I.) the historical limits of this *one* appearance in particular must be restricted to that of his reign also, B. C. 247–222<sup>f</sup>—and as restricted to that in general, very probably, as there was also reason to conclude<sup>f</sup>, to the 21st year of his reign, B. C. 227 in particular.

iii. Assuming consequently this year of the reign of Ptolemy Euergetes I., B. C. 227, as the supposed historical date of the last of these recorded appearances of the Phoenix, and consequently of the *fourth* Phoenix cycle, and the period

<sup>e</sup> *Fasti*, iii. 224 sqq. 230 sqq.

<sup>f</sup> *Ibid.* iii. 231. 234.

<sup>g</sup> *Ibid.* iii. 235. 222.

of the cycle, as thus historically connected in a particular instance with this epoch, as that of Solinus, 540 years, we get the epoch of the first, (1620 years before B. C. 227) B. C. 1847 $\frac{1}{2}$ .

iv. Assuming the period of the cycle, according to another of the measures of its length, handed down from antiquity, that of Manilius, at 509 years<sup>h</sup>, and the epoch of the period of this kind, current in *his* time, according to his own testimony, reported by Pliny<sup>h</sup>, B. C. 321, and the period itself, the fourth, as before, in the decursus of such cycles from the first, we get the epoch of the first, ( $509 \times 3$  or 1527 years before B. C. 321,) B. C. 1848.

v. Assuming the interval between the epoch of the Tables of Ptolemy, (A. D. 138,) and the date of two sidereal observations attributed to the Egyptian Hermes, according to Abraham Zachut, (1985 years<sup>i</sup>) to have been really intended of the interval between the epoch of the Tables of Ptolemy and that of the first Phœnix cycle, we get the epoch of that first cycle, 1985 years before A. D. 138, B. C. 1847.

vi. These different dates of the epoch, though obtained in such different ways and from such different data, being nevertheless so nearly identical—one of them, it was evident, confirmed another; and the coincidence of each of these modes of proceeding in the same result at last, could leave little or no doubt of its truth. I say the same result; for that was strictly the case, in the epoch obtained from the first and the third, B. C. 1847. And though the epoch obtained from the second differed apparently from this, that difference was limited to one year, B. C. 1848 instead of B. C. 1847. And even that would be explained, if the Phœnix cycle had in reality, from the first, a double epoch; one taken from the first of the Primitive Thoth for the time being, a certain day B. C. 1848, and the other from the date of the mean vernal equinox, B. C. 1847.

vii. And that this was actually the case, and that this is consequently the true explanation of this seeming difference, was made to appear by the history of the discovery and the application of the principle of the Julian reckoning, by the

<sup>h</sup> Fasti, iii. 223–236.

<sup>i</sup> Ibid. iii. 242 : iv. Addenda, 660.



ancient Egyptians also<sup>k</sup>; and of the two principal types of this reckoning, which they had among them, one of which took its rise on the first of the civil Thoth, *Æra Cyc.* 2159, Nov. 18, B. C. 1848, and consequently on the epoch of the first Phœnix cycle according to Manilius—the other, along with the first Sothiacal period, Thoth 1, *Æra Cyclica* 2657, July 22, B. C. 1350<sup>l</sup>. And this distinction was further confirmed on the one hand, by the division of the natural year in terms of the civil, among the Egyptians, into three seasons of four months each, (the season of *Vegetation* or *Gardening*, the season of *Housing* or *Reaping*, and the season of the *Waters*<sup>m</sup>), founded on the actual relations of the natural and the civil year *inter se*, Nov. 18 B. C. 1848, and strictly applicable at that time—and on the other, by a similar division of the civil year, among the Egyptians also, into three periods of 120 days, four months of the equable standard, each, in length, founded on the relations of the Sothiacal type, as coming into being July 22 B. C. 1350, to the Phœnix type, of so much older date, Nov. 18 B. C. 1848. For this was such that from the first of a given month in the former to the first of the month of the same name and the same place in its proper calendar, in the latter, in the same year of the Julian cycle of leap-year, all round the calendar in both types, the interval was just 120 days<sup>n</sup>.

ii. With respect to the epoch of the Phœnix cycle in terms of the *Day*. It has been shewn<sup>o</sup>, that the traditionary character of the epoch, in terms of the natural year, having been that of the mean vernal equinox for the proper meridian, and the traditionary lunar character having been the Luna septima<sup>p</sup>, both these characters met in the Julian April 8 B. C. 1847. And that *this* must have been the actual Julian date of the first Phœnix cycle, has been further confirmed, i. By the rule of the Mysteries of Minos in Crete, and the stated interval of 24 days between their proper date in the correction of Minos, at the epoch, Sept. 23 B. C. 1260, and their date in a corresponding Octaëteric cycle, brought down from this epoch of the first Phœnix cycle, April 8 B. C.

<sup>k</sup> Fasti, iv. 171–183.

iii. 38, 39–43. Herod. ii. 92.

238.

<sup>l</sup> Cf. supra, page 13 sqq.<sup>n</sup> Cf. Fasti, iv. 175.<sup>m</sup> Cf. Bunsen,<sup>o</sup> Fasti, iii.<sup>p</sup> iii. 339–349 n. 509–524.

1847, to that of the correction of Minos—August 30 q.  
 ii. By the Lunar character of the epoch of the second cycle, the Luna 15<sup>a</sup>, as necessarily deducible from the Lunar character of that of the first, the Luna 7<sup>a</sup>; and the coincidence of the former character with the Julian April 8 B. C. 1347, as much as that of the latter with the same term, April 8, B. C. 1847<sup>r</sup>. iii. By the history of the sphere of antiquity, or that modification of the sphere of the beginning of things itself, which came into existence along with the first Phœnix cycle; and by that of the two other types of this sphere, which came into being along with the two other Phœnix cycles, later than the first.

And of all the confirmations of our account of the Phœnix cycle of the Egyptians to which we could appeal at present, this is the most complete and the most decisive; for even this cycle itself, in its first conception and first intention, was nothing more or less than a combination of two spheres, just at the epoch of this cycle; one, an abstract idea of its kind, fixed and invariable, and consequently not liable to be affected by Precession, the other, the sphere of nature, necessarily subject to Precession, and consequently shifting and variable—the former of which I have called the Sphere of *Mazzaroth*<sup>s</sup>, the latter the *Tropical* or *Natural*. So that, from this time forward, the history of the Phœnix cycle was in reality that of the sphere, and the history of the sphere was as truly that of the Phœnix cycle. And as no more than three appearances of the Phœnix professed to be known of historically, from which I argued that no more than three Phœnix cycles could have been known of historically also; so, it is very observable, have no more than three types of the sphere been handed down, as known of *de facto*, from all antiquity, yet each with a character of its own, derived from the varying relations of a moveable to an immoveable exemplar of its kind, (such as I suppose to have been originally combined at the epoch of the first Phœnix cycle,) at equal periods in the subsequent decursus of both together<sup>t</sup>. Of each of these then in its turn.

i. The traditionary character of the first and oldest of

q Orig. Kal. Hell. iv. 487–491.

160: vi. 632 sqq.

s Fasti, iii. 250.

r Fasti, iii. 530. Orig. Kal. Hell. v.

t iii. 287.

these spheres was that of the sphere laid down *in quintis-decimis partibus*<sup>v</sup>: and that was simply the description of the original combination of the moveable with the immoveable sphere, at the epoch B. C. 1847, when the first degree of the Tropical, reckoned from April 7 at m. n. to April 8 at m. n., the date of the mean vernal equinox for the meridian of Heliopolis, was actually falling in the 15th degree of the sphere of Mazzaroth, reckoned from March 24 at m. n. to March 25 at m. n.<sup>x</sup>

ii. The traditionary character of the second type of the sphere of antiquity was that of the sphere laid down *in duodecimis partibus*<sup>y</sup>: and that was simply the description of the relation of the moveable and the immoveable spheres *inter se*, at the epoch of the second Phœnix cycle, B. C. 1347, when the first degree of the Tropical, reckoned from April 4 at m. n. to April 5 at m. n., the mean vernal equinox for the meridian of Heliopolis, was actually falling in the 12th degree of the sphere of Mazzaroth, reckoned, as before, from March 24 at m. n. to March 25 at m. n.

iii. The traditionary character of the third type of the sphere of antiquity was that of the sphere laid down *in octavis partibus*<sup>z</sup>: and that too was simply the description of the relation of the two spheres to each other at the epoch of the third Phœnix cycle, B. C. 848, assumed for B. C. 847, when the first degree of the Tropical, March 31 at m. n. to April 1 at m. n., the date of the mean vernal equinox, as before, was falling in the eighth degree of the sphere of Mazzaroth, reckoned from March 24 at m. n. to March 25 at m. n., as before also.

These different relations of the two principal terms in this combination, the sphere of Nature and the sphere of Mazzaroth, and the different epochs in the decursus of both together, at which they were actually holding good, have been illustrated and confirmed by other corroborative coincidences.

As, i. The relations of the epochs of origination, (i. e. at the first combination of the two spheres themselves,) *inter se*, first, by the *Gemitura Mundi*, or the supposed position of the

<sup>v</sup> Fasti, iii. 284-287.

<sup>x</sup> iii. 280-299. 299-324.

<sup>y</sup> iii. 287. 349-361.

<sup>z</sup> iii. 287. 420 sqq.

sun, the moon, and the planets, each in the xvth degree of their respective Houses, characteristic of this *Genitura*, yet founded on the actual relations of the two spheres to each other, at the mean vernal equinox, B. C. 1847<sup>a</sup>. Secondly, By the traditionary horoscope of this *Genitura*—Aries on the meridian at noon, the first point of Cancer rising, and the first point of Capricorn setting, at the same moment of time; characters these, actually those of the state of the case on this very day, April 8, at mean noon, for the meridian of Heliopolis, B. C. 1847<sup>b</sup>.

ii. Those of the epochs of the second and third of the same combinations, first, By the fable of the *Dragon* and the *Sparti* or *sown men* of Cadmus, explained in the third Part of my *Origines*<sup>c</sup>; and by a supposed modification of the sphere of the first type, laid down in *quartisdecimis partibus*, and assumed as the sphere of Cadmus, B. C. 1427. Secondly, By the Etruscan sphere, laid down in *undecimis partibus*, B. C. 1434<sup>d</sup>. Thirdly, by the Chaldee sphere, or astrological sphere of antiquity, laid down in *decimis partibus*, B. C. 1106<sup>e</sup>. Nor is it any difficulty that, though the proper epoch of the third Phœnix cycle would have been B. C. 847, that of the second revision or third combination of the spheres, *de facto*, (but for particular reasons,) assumed by the Egyptians, was B. C. 848<sup>f</sup>.

iii. By the history of the Lunar Mansions, which came into being along with the first type of the sphere, at the epoch of the first Phœnix cycle, and were revised and laid down afresh, along with each fresh type of the sphere, at the epoch of successive cycles. As, first—the Julian date of the first type of these mansions having been that of the first Phœnix cycle, April 8, perpetually—it has been shewn<sup>g</sup> that, as the lunar character of the mansions, handed down by testimony from the first, was the *Luna septima*, so the lunar character of April 8, B. C. 1847, for the meridian of Heliopolis, was the *Luna septima* also<sup>h</sup>. Secondly, the Julian date of the epoch of the mansions being supposed to have remained the same

<sup>a</sup> Fasti, iii. 447 sqq. ii. 75. <sup>b</sup> iii. 451–459. <sup>c</sup> Origg. Kal. Hell. v. 144 sqq. <sup>d</sup> Origg. Kal. Ital. ii. 492 sqq. <sup>e</sup> Fasti, ii. 76. iii. 464 sqq. <sup>f</sup> iii. 420. 531. <sup>g</sup> iii. 328 sqq. 551 sqq. <sup>h</sup> iii. 328–348 and n. 502. 520. iv. Appendix, 671 n.



in every type, the true lunar character of this epochal date in the first instance having been the *Luna septima*, that of the same epochal date in the second instance must have been the *Luna quintadecima*<sup>i</sup>; and that the proper lunar character of the second Phœnix cycle, April 8, B. C. 1347, was the *Luna 15<sup>a</sup>*, is proved by testimony discoverable even among the Greeks<sup>k</sup>. Thirdly, the proper lunar time of the mansions, regularly brought down from April 2, the *Luna 1<sup>a</sup>*, or April 8, the *Luna 7<sup>a</sup>*, B. C. 1847, the epoch of the first type of the sphere, to B. C. 848, that of the *third*, as anticipated by *one* year, has been connected, at that particular period of its decursus, with the proper lunar time of the Apis cycle, brought down, in the period of 125 equable years, from its epoch of origination, Thoth 11, Æra Cyc. 3034, May 1, B. C. 973, to this period, and its proper epoch at this, Thoth 11, Æra Cyc. 3159, April 1, B. C. 848—and a reason has thereby been assigned for the anticipation itself<sup>l</sup>.

iv. By the history of the Zodiac, in contradistinction to the Ecliptic—and by that of the Zodiacal figures, in contradistinction to the Signs.

It has been shewn<sup>m</sup> that the first combination of the two spheres, and along with it the first idea of the division of the ecliptic into a certain number of equal spaces (28), like those of the lunar mansions, at this epoch of B. C. 1847, led in its consequences to the conception of the Zodiac in contradistinction to the Ecliptic—to the imposition of Zodiacal names on the Signs—and ultimately to the introduction of the Zodiacal figures, as the representatives of the Signs, into the sphere itself—That this was not done at random, but after a certain order, the most natural and probable, under the circumstances of the case, which could *a priori* have been expected—and spread altogether over an interval of 1000 years, from the epoch of the first Phœnix Period, B. C. 1847, to that of the third, B. C. 847 or 848—That the first type of the sphere consequently had simply the ecliptic and the signs; the second had the signs under the zodiacal names, but not the zodiacal figures; the third had the signs

<sup>i</sup> Fasti, iii. 530.<sup>k</sup> Orig. Kal. Hell. v. 160.<sup>l</sup> Fasti, iii. 531 sqq.<sup>m</sup> iii. 324-419.

both under the zodiacal names and with the zodiacal figures. And these names too have been explained<sup>n</sup>; and in more than one instance have been shewn to have been critically adapted to the place of the sign so called, in the natural year. And in like manner, it has been shewn<sup>o</sup>, that, though each type of the sphere had its proper type of the Mansions also, names were first given to the mansions only of the third type. And these names too have been explained, and in repeated instances shewn to have attested, by their meaning itself, the relations of the mansions, under their proper Julian dates in this third type, to their places in the natural year, at the same period; especially the name of the *cubit* mansion, under its proper Julian date of this epoch, June 17, and the tradition still connected in Egypt with this Julian term in particular, as late as the time of Prosper Alpinus at least<sup>p</sup>.

v. By the subsequent history of the sphere, after the second revision, B. C. 848, as that which passed from the Egyptians, in the state in which it was left by this revision, to the rest of the ancient world, and as that which has descended to posterity, retaining at this very day, *mutatis mutandis* merely, the impress stamped upon it B. C. 848<sup>q</sup>. And more particularly by the history of its passage, along with the signs, the zodiac, the zodiacal names, and the mansions of this third and last type, to the Hindus, B. C. 699<sup>r</sup>, and to the Chinese, B. C. 657<sup>s</sup>.

vi. By the history of the doctrine of the alternate Precession of the cardinal points of the sphere, (both the sphere of Mazzaroth, and the Tropical sphere,) to a certain extent *in consequentia*, and the alternate Recession, to the same extent *in antecedentia*<sup>t</sup>; a doctrine originally broached in Chaldaea, (and probably in B. C. 1106,) and adopted by the Egyptians in B. C. 798, as the law of the relation of the two spheres to each other from that time forward perpetually—entailing consequently a change in the Phoenix Period from one of 500 years to one of 640. An history, confirmed by the examples of spheres of later date, in repeated instances,

<sup>n</sup> Fasti, iii. 361-419.

<sup>o</sup> Ibid. 330. 551 sqq.

<sup>p</sup> Ibid. 572-580.

<sup>q</sup> Ibid. 265-268. 420-435.

<sup>r</sup> Ibid. iv. 47-90.

<sup>s</sup> Ibid. iv. 1-30.

<sup>t</sup> Ibid. iii. 439-446. Orig. Kal. Ital. iv. 56-66; Hell. vi. 638 sqq.

accommodated to this doctrine; as, i. the sphere of Thales, B. C. 602<sup>v</sup>: ii. the sphere of Eudoxus, B. C. 687 and B. C. 398<sup>x</sup>: iii. the sphere of Hesiod, B. C. 570–569<sup>y</sup>: iv. the sphere of Sosigenes, and of the Julian correction, B. C. 45<sup>z</sup>.

Such being in brief my account of the Phœnix cycle—its original constitution—its subsequent administration according to its proper law as long as that was still observed—the abandonment of this law and this rule of administration at last, and with it, the corruption of the traditionary astronomy of the postdiluvian world, inherited from the antediluvian—(an astronomy too as true to nature as that which was now substituted for it in Egypt was false—) let us pass to the use and application, proposed by this whole account, as supplying the proofs of the true chronology of their own world, which must have been possessed by the ancient Egyptians up to the date of the institution of this cycle. And here I begin with observing, i. that the ascertained epoch of this institution, B. C. 1847, reduced to its place in the true *Æra Mundana* as the same with that of the Hebrew Bible, before and after the Deluge, was just 500 years later than the year of the Descent from the ark, and the second *Natale Mundi*, B. C. 2347. Secondly, that the proper Period of the Phœnix cycle from the first was 500 years also<sup>a</sup>. Thirdly, that being the case, on the principle of the *reditus retro*, of which every cyclical reckoning in its own nature is capable, it would have made no difference to the decursus of the cycle itself, whether it had come into existence at the mean vernal equinox B. C. 1847 or at the mean vernal equinox B. C. 2347.

ii. I observe in the next place, i. that though the fable, relating to the Bird called the Phœnix, no doubt was associated with the Cycle and Period so called too, from the first; this Phœnix Bird, as the living and sentient type of the Period, was a very different thing from the Phœnix Period; and the idea and conception of the former must have had a very different origin from that of the latter. ii. That for the origin of the idea of the Phœnix Period, just at this epoch of B. C. 1847, nothing is necessary in the way of explanation,

<sup>v</sup> Hell. vi. 630–646.

ii. 657: i. 614 sqq.  
Hell. vi. 638 sqq.

<sup>x</sup> Fasti, iv. 114–130. 131–143. Origg. Kal. Hell.

<sup>y</sup> Ibid. i. 275 sqq.

<sup>a</sup> Fasti, iii. 219–224.

<sup>z</sup> Origg. Kal. Ital. iv. 56–66.

but the actual relations *inter se* of the various kinds of time incorporated in the Period, Tropical, Lunar, and Julian, obtaining *de facto* at that very time, and the end proposed by the institution of the Cycle itself—the fixation of those relations, either absolutely or relatively, just in the same way, through successive Periods. But how shall we account for the origin of the idea of the Phœnix Bird just at the same time also, except from the accidental coincidence that, while the epoch of the institution of the Phœnix Period *de facto* was B. C. 1847, virtually it was B. C. 2347, the very first year of the postdiluvian world? The virtual, if not the actual, epoch of the Phœnix Cycle and Phœnix Period being thus the very first year of the new world, just coming into being out of the destruction of the old, yet resembling the old in every essential respect, and taking up and continuing the same succession of things called the course of nature, after the flood as before; what is wanted, but that coincidence, to connect the Phœnix Bird with the Phœnix Cycle, both at first and ever after, yet in the particular way supposed by the Fable, of its coming into being at the beginning of every fresh Period out of the destruction and death of its predecessor, at the end of the one just before<sup>b</sup>?

iii. I proceed to remark on the same subject further, i. That though the Krion of the sphere of Mazzaroth, March 24 to April 24, and the Aries of the Tropical sphere, was the epochal sign *de facto* at every combination of the two spheres, from B. C. 1847 to B. C. 848; proofs are discoverable, and have been adduced<sup>c</sup>, that the true Krion or Aries of the beginning, the true Natalitial sign of the existing system of things, (the Verno-equinoctial sign of B. C. 4004,) was known to have been the Tauron of Mazzaroth, April 25—May 25. ii. That, according to the annual rate of the precession in mean longitude, assumed in the Tables of my *Fasti*, 50''·069, in 2157 years it would amount to 30° degrees, or one entire sign complete; and consequently, if the two stars, Beta and Zeta Tauri, A. M. 1, B. C. 4004, were standing in 0° 0' 0'', and 27 Arietis was standing in 330°; A. M. 2158, B. C. 1847, the former must be standing in 30° 0' 0'',

<sup>b</sup> *Fasti*, iii. 245. *Origg. Kal. Ital. Prelim. Address*, c.

<sup>c</sup> *Fasti*, iii. 253 sqq. *Prelim. Address*, lxxxii.



and the latter in  $0^{\circ} 0' 0''$  <sup>d</sup>. iii. That, in adapting, the asterism of the Ram to the sign of the Ram, and that of the Bull to the sign of the Bull, whensoever that was done between these epochs of B. C. 1847 and B. C. 848, the Egyptians laid down  $27$  Arietis and Beta and Zeta Tauri just  $30$  degrees asunder, the former in  $0^{\circ} 0' 0''$ , and the latter in  $30^{\circ} 0' 0''$ —and what is very observable, the latter in the very first degree of the sign of the Bull, one on the top of one horn, the other on that of the other <sup>e</sup>.

From such coincidences as these, which are much too critical to be accounted for by chance, we are justified in arguing that whosoever they were, who first conceived the idea of the combination of the moveable and the immoveable sphere, at the epoch of the first Phœnix cycle, they must have had as distinct an apprehension of the true relations of Tropical, Sidereal, and Julian time, A. M. 1, B. C. 4004, as A. M. 2158, B. C. 1847; and therefore must have had as exact a chronology of their own world from the beginning down to the institution of the Phœnix Cycle, as from that epoch down to any later period, for which nothing would be necessary but the decursus of this Cycle itself.

This point then having been cleared up, and my assertion that the Egyptians were once in possession of as true a Chronology of the antediluvian and the postdiluvian world, as we ourselves at the present day, having thereby been made good, before I take my leave of this subject, let me say a few words on the Pseudo-Histories and Pseudo-Chronologies of other nations of antiquity, as well as that of the Egyptians.

#### SECTION V.—*On the Pseudo-History and Pseudo-Chronology of Profane Antiquity, distinct from that of the Egyptians.*

It is just as probable *a priori* that a true chronology of Mundane and Human History must have been possessed by all mankind, as by any particular people, at first. In fact, if the Scriptural account of the origin of all nations first from Adam, and then from the three sons of Noah, is true, it is scarcely conceivable that any kind or degree of knowledge could have been the birthright of any of them, which was

<sup>d</sup> Fasti, iii. 269-274. 432-435.

<sup>e</sup> Fasti, iii. 258. 265 : Introduction to the Tables, 240, 241.

not shared at first, and for a longer or a shorter time afterwards retained in its integrity, by the rest.

In the case indeed of those other nations, individually distinct from the Egyptians, who are known to have set up extravagant claims to an antiquity of their own, or in behalf of their proper system of things—we have it not in our power to confront these pretensions, at present, with any more rational systems of the same kind. and more consistent with what we know from Scripture to have been the truth—discoverable among *them*, from any more trustworthy but more recondite sources of information, as among the Egyptians; but that truer and more rational ideas even on such points as these did once exist very generally in the ancient world, after the Deluge as much as before, may be argued from various considerations, some of them briefly noticed *supra* <sup>f</sup>.

As i. The general concurrence of the postdiluvian world to date the proper origin of the measures of time of their own system of things at that *one* season of the natural year, at which in fact they did actually take their rise, viz. that of the vernal equinox <sup>g</sup>. ii. The knowledge and recollection of the true *Natale Mundi* of the antediluvian world. so long and so correctly retained among them <sup>g</sup>, even after the Flood, as well as that of their own world in particular <sup>h</sup>, which from the nature of the case could bear date only from the year after the Flood, and the Descent from the ark. iii. The evident desire and anxiety of the reformers of the calendar, in the postdiluvian world, in repeated instances to attach the epoch of their civil time to the epoch of natural from the first, through such remarkable terms as April 25 or 24, the traditionary date of the *Natale Mundi* of the beginning, or March 24, 25, or 26, the epoch of the sphere of Mazzaroth, so closely connected with it <sup>i</sup>.

And besides these, we can appeal in particular instances to well attested matters of fact, as demonstrative proofs of the still continued retention of a true and legitimate tradition of the real antiquity of their own world, and of its past history and chronology, in quarters distinct from Egypt, or Judæa, in which no traces of it are discoverable at present ;

<sup>f</sup> Page 5.

<sup>g</sup> Fasti, ii. 70 *sqq.*

<sup>i</sup> Fasti, iii. 313.

<sup>h</sup> *Supra*, p. 77, 78.

having long been overlaid or obliterated by very different assumptions and theories of later date.

As i. Among the Hindus, according to Mr. Bentley<sup>k</sup>, there was an *Æra* of Creation, older far than the invention and adoption of their monstrous system of the Kalpa, (which in his opinion is not older than A. D. 538<sup>l</sup>)—the epoch of which was remarkably in accordance with the Scriptural date of the Deluge—and would therefore imply that by this *Æra* of Creation, they meant that of the new world, after the destruction of the old by the Flood. ii. The Arabians, as I had occasion to shew<sup>m</sup>, have handed down a tradition, received indeed from the Egyptians, but accepted also by themselves, that, at the epoch of the Deluge, the star Regulus, or Cor Leonis, was standing on or about the summer solstitial colure; and such was its actual position in mean longitude B. C. 2348. iii. It has been shewn<sup>n</sup> that, at Babylon, the Chaldees must have been aware of the true date of the Dispersion, as late as B. C. 1106. And what is more, there is reason to believe<sup>o</sup> that, so late even as the epoch of the *æra* of Nabonassar, B. C. 747, they were aware of a fact which was strictly holding good at that time, viz. the returning of equable time, *there* and *then*, to the same relation to Julian or Natural, in which it had stood to them at the Dispersion. iv. It has been shewn too, in the *Origines Kal. Italicæ*<sup>p</sup>, that the return of equable time, B. C. 980, within one or two days, to the traditionary date of the Natale Mundi, April 25 or 24, in Italy, was the probable motive to the institution of the first of the two Etruscan types of the Nundinal correction, that of Vulsinii, and along with it, that of a remarkable ceremony, peculiar to ancient Italy, the *Clavifigium*, or *Driving of a Nail*, with much solemnity, every five equable, every six nundinal, years, as the means of keeping the account of mundane time, from that time forwards, in terms both of equable and nundinal time, perpetually. v. It has been shewn in the *Origines Kal. Hellenicæ*<sup>q</sup>, that the return of equable time, B. C. 841, to the same relation to Julian as at the epoch of the Deluge, B. C.

<sup>k</sup> Fasti, ii. 29.  
to the Tables, 200.

<sup>l</sup> Hindu Astronomy, 82 sqq.

<sup>n</sup> Fasti, iii. 478 n.

<sup>o</sup> ii. 77.

<sup>m</sup> Introduction

<sup>p</sup> ii. 445. 458.

<sup>q</sup> v. 747-749.

2318, did not escape contemporary observation even among the Greeks; but led to the fixation of what were called the *Μηραὶ ἡμέραι*, (the traditional days of the flood,) through the 17th of the primitive month of the time being, and with no other error in that assumption, except that of the 17th of the *last* month, instead of the 17th of the *second*, to their proper Julian date, as recoverable from their place in the Correction of Solon, B. C. 592, March 1.

The falsification of the true history and true chronology, like that of the true religion also<sup>r</sup>, of the Postdiluvian world, there is every reason to believe began with the ancient Egyptians; but a beginning having thus been made, and an example in this respect set, by so influential a people as the Egyptians, nothing is necessary, in order to account for the same phenomenon in any other instance, beyond the force of this first example; and the authority of this precedent. Among the Egyptians the first idea of this false history and chronology must have been self-originated; among the rest of the world it is probably to be resolved into the principle of imitation or rivalry,—the desire to do what those whom they looked up to as their masters and teachers were seen to have done, or the ambition of not being outdone in the affectation of antiquity of origin, and of intellectual and moral superiority from the first, which thus seemed to be necessary to put them on a level with their masters and teachers themselves. And the means, which it was very well known, or with good reason suspected, that the Egyptians had adopted, as the best suited for this purpose of exaggerating their own antiquity or preeminence from the first, having been the invention of the phonetic hieroglyphic, other nations, in the same spirit of emulation or of rivalry, set their wits to work to contrive a mysterious language of their own, which should serve the same purpose of recording and perpetuating, and yet concealing from all but the initiated few, their own esoteric history and chronology. Hence in all probability the first conception of the arrow-headed or cuneiform character of the Babylonians, Assyrians, or Persians, which the learned are so eagerly intent on making out

<sup>r</sup> Fasti, iii. 116. 126.



at present; and probably too the still undeciphered and unintelligible character of the ancient Umbria or Etruria.

But the most remarkable of all those consequences, which are ultimately perhaps to be traced to what the Egyptians were known or suspected to have done in the same way so long before, in my opinion, is the Sanskrit language. I do not scruple to declare my conviction, in spite of all the ridicule with which it will probably be received in certain quarters, that the first idea even of the Sanskrit language is to be traced back to the example of the invention of a language for a particular purpose, first set by the Egyptians; and that even the Sanskrit of ancient or of modern India, as much as the Hieroglyphic of the Egyptians, or the Cuneiform of the Assyrians, belongs to the same category of a purely factitious and artificial, instead of a real and genuine, specimen of the use of words as the vehicle of ideas and thoughts of every kind—differing only from its congeners, first, in being probably much younger than either of them, or any thing else of the same kind which might have once existed elsewhere; secondly, in its nature and composition, as made up of elements or materials, not invented for the purpose, but supplied by languages previously existing and in use—the native or vernacular languages of India, called the Prakrit, on the one hand, and the Greek, and the Latin, and the other European languages, on the other—and thirdly, very probably in the use and purpose for which it was intended; that is, not as the vehicle simply of the history or the chronology of India, whether true or false in itself, but as a dominant and privileged language, destined to become in due time (as in fact it has become) the only authorized vehicle, the only repository, of all the history, all the philosophy, all the theology, all the science, all the poetry, in a word, all the literature, of its own country, both before and after its invention<sup>s</sup>.

<sup>s</sup> Appendix, Note EE.

SECTION VI.—*On the bearing of the investigations of the Fasti Catholici and the Origines Kalendarie upon the study of the earliest Profane Antiquity ; and on the principle of the reliance which may be placed upon the results to which they have led.*

The most common objection of the modern school of historical scepticism to the accounts of the ancients, (those especially which go furthest back in the annals of a particular people,) is, that there is no proof, known of at present, that such accounts were derived from contemporary sources of information,—from the testimony of eye-witnesses or ear-witnesses, fixed at the time, and preserved in its integrity ever after, in some permanent record.

If this objection means only that, for any thing known to the contrary, these ancient accounts must have been transmitted to posterity traditionally, and not in writing ; without denying the possible truth of this assumption, still we may contend that even tradition, traced up to its sources, must originally have been founded on contemporary observation. Granting too that history, handed down by oral tradition alone, must always have been liable to corruption, and the more so the further it receded from the centre of origination, still we may justly maintain that even the corruption of historical truth is not necessarily the destruction of its essence, but at the utmost only an unwarranted addition to, or subtraction from, some of its accidents and circumstances ; and that the proper duty of a rational and sober criticism, sitting in judgment on the traditions of the past, is not to reject such accounts *in toto*, because of the objectionable character of some of their particulars, but assuming that all history, unwritten as much as written, uniformly handed down, must have been founded in some matter of fact or other, to deal with the traditions submitted to its cognizance, as the chymist would do with the precious metal submitted to his analysis in the ore ; i.e. separate, if possible, the golden grains of truth and fact, from the adscititious matter which has gathered around them in the course of their transmission from mouth to mouth. It may justly be contended that, although an historical account of any kind, however truly consigned to tradition from contemporary observation at

first, yet handed down ever after by oral testimony alone, without any change in its circumstances, would be an unexampled phenomenon; the fact of an uniform, a consistent, and an undoubting tradition, handed down among a whole nation from age to age with the same unvarying belief in its truth, would be a yet more extraordinary phenomenon, and in its origin still more inexplicable.

The natural tendency of the human mind is to defer to testimony of every kind as true. If we have any predisposition, independent of, and prior to, the habits acquired from observation and experience, and founded in the very necessities of social existence, it is that of a prejudice in favour of the truth of every thing which comes recommended by testimony. The innate bias of our minds is not to doubt of the good faith of testimony, but to believe in it too easily and implicitly. A man must do violence to his first impressions, and to his spontaneous instincts and impulses, not to be inclined to defer to testimony merely on its own account. We all feel instinctively that for the knowledge of every thing passing, which lies beyond the limited sphere of our own senses, we must rely upon others; and we have all common grounds of confidence, in the common sense, the common honesty, and the common regard for truth, which are properties and qualities of human nature every where—to justify this reliance on each other. Every man in his own time is thus perpetually dependent on his contemporaries, for all that he can know of the present, beyond the reach of his own eyes and ears; and every later generation of men is still more dependent on an earlier, for all that it knows or can know of the past; and whether that knowledge, so derived, is obtained through oral and traditionary, or through written and historical, testimony, is after all only an accidental distinction, and makes no real difference to the absolute dependence of all the knowledge and all the certainty which later times can have of the past, on the good faith and credibility of former.

Written testimony itself, so far as regards the grounds of the deference due to it, rests much on the same foundation as traditionary. Both must be received, if at all, on authority. Written testimony has no recommendation *a priori*

over traditionary, in respect of the ultimate foundation of both, contemporary observation, except the accidental advantage which it seems to possess, of having been fixed at the time, according to actual observation, and secured by the very mode of its transmission ever after from the risk of change either in its substance or in its accidents. And yet even written history is not exempt from the possibility of corruption, in the course of its descent downwards; and even as the record of contemporary observation, how much must there be in all history, not written under the guidance of inspiration, which must have rested at first on testimony *ab extra* to its author, on the reliance which one man must after all place on another, for the knowledge of every thing beyond the sphere of his own observation!

With respect to those traditions of profane antiquity, which the modern school of historical criticism so summarily disposes of, it is as unreasonable as it is arrogant in any even the most sagacious of modern critics to pretend to know more of the true grounds of credibility on which such traditions might have rested, than the wisest and best informed of former times—or even than any of the ancients, all of whom, whether competent judges of truth or falsehood in history on other grounds, or not, lived so much nearer at least to the origin of such traditions, and possibly even to the still continued existence of sensible proofs of their truth. The right mode of dealing with these ancient traditions at the present day is not to pronounce them incredible *a priori*, by an *ipse dixit* of our own, but to confront them, if possible, with a contrary tradition, equally ancient and equally well authenticated as an actual tradition of its kind, within the same sphere of circulation as these, yet repugnant to these. *Quod semper, ubique, et ab omnibus*, is as good a test and criterion of truth or falsehood in history as in theology, and it is the same spirit of heresy which leads to the rejection of a fact in ancient history, authenticated by an uniform tradition, as to the denial of a dogma in religion, attested by an uniform belief.

It is peculiar however to the historical inquiries of the *Fasti* and the *Origines*, that they have to do with the events of general history among any nation, and at any time whe-



ther more or less remote, only through *one* of the circumstances of *all* events, and *that one* the most precise and definite of all—their *time*; and even with their *time* through its connection with some form or other of the *measures* of time. And in this relation the proper expression of their time is their DATE. And to *this* one of the circumstantial criteria of all events, at the time of their happening, (as capable *a priori* as any of being handed down by tradition,) it must always, from the nature of the case, be peculiar, to be either totally true or totally false. There is no such affection of a circumstantial criterion of passing events, like this, as that of its being partly true and partly false. Nothing can be added to, nothing can be subtracted from, the *date* of a passing event, which will not in either case be equally destructive of the truth of the relation between them. Every date therefore, handed down traditionally as one of the proper circumstances of a passing event, in that connection with it must be either totally true or totally false, and must be received or rejected in its totality accordingly.

It is another felicity of our inquiries also that they have to do even with this one traditional circumstance and criterion of passing or past events, only as derived directly or indirectly, primarily or ultimately, from the natural measures of time, or from the primitive civil calendar. It requires no argument to prove that the testimony of the natural measures of time, wheresoever it comes in, and can be appealed to, to authenticate passing events, is *contemporary* testimony; and not only so at the time, but as recoverable even at the present day, in the same relation, by calculation. It is equally unnecessary to prove that the testimony of the civil calendar also, (especially that of all mankind from the first, or that of the particular calendars of individual nations, derived from this at different points of time in its descent downwards,) is *contemporary* testimony—that a calendar, the nature of which, the constitution and laws of which, and the epoch of which are all known, so long as it continues to proceed from that epoch, and to be administered according to those laws, is to all intents and purposes, at every period of its decursus, through the dates of passing events supplied by it, a perpetual source of contemporary testimony.

Thus among the notes and criteria of passing events, supplied by the natural measures of time, we have it in our power to appeal sometimes to the cycle of the seasons, the equinoctial or solstitial ingresses—both the mean and the true—peculiar to Natural Tropical time: sometimes to the risings or settings of the stars, the conjunctions of the sun with such and such stars—peculiar to Natural Sidereal time—sometimes to new or full moons, solar or lunar eclipses, lunar dichotomies, whether the first or the second of their kind—peculiar to Natural Menstrual or Lunar time. Among those which are derived from the Nectidiurnal cycle, we can appeal to some one or other of the measures of that cycle in terms of itself, which have run parallel to the course and succession of history also from the first, or from some known period in its decursus; the Hebdomadal, for instance, of the former kind, both the Patriarchal, from B. C. 4004 to B. C. 1560, and the Patriarchal and the Levitical, from B. C. 1560 to B. C. 798, and the Patriarchal, the Levitical, and the Planetary, from B. C. 798 to the present day<sup>t</sup>. The Nundinal of the latter kind, among the ancient Italians in general, from B. C. 1340 to B. C. 750, and among the Italians in general and the Romans in particular, from B. C. 750 to A. D. 355. The Sexagesimal, among the Chinese, from B. C. 742 or 657 to the present day<sup>v</sup>. The 13 days' cycle or Tonalli among the Toltees and Aztecs of the new world, from A. D. 700 at least.

And among the same kind of criteria supplied by civil annual time, as the representative of natural, we can appeal, as often as there is occasion, to those which are peculiar to Julian, both Gregorian-Julian, the proper representative of natural annual time in the form of Julian from the first, and simple Julian, as borrowing its epoch of origination, at a given time, from the proper Gregorian term of the same æra, but subjecting it ever after to the law of the administration of simple Julian time. And among those which are peculiar to Equable Annual as perpetually referrible to Julian, we can appeal *pro re nata*, either to Equable Cyclical, constantly referrible to Gregorian-Julian, or to Equable Nabonassarian,

<sup>t</sup> Fasti, iii. 489. Origg. Kal. Hell. Prolegomena, lix-lxviii.  
501. 530.

<sup>v</sup> Fasti, i.

as deriving its epoch, at a given time, from Equable Cyclical, but subjecting this term, and every other dependent upon it, ever after, to the proper law of the relations of equable annual time to simply Julian.

SECTION VII.—*Illustration of the tests or criteria of truth or falsehood in ancient historical tradition, peculiar to the Fasti and the Origines, by their application and use in Four remarkable cases.*

I cannot do better perhaps, in illustration of these different tests and criteria of truth or falsehood in ancient history, which are employed in my *Fasti* and *Origines* perpetually, and of the unexpected and striking confirmation thereby supplied even of such historical traditions as those which modern scepticism treats without scruple as simply legends and myths, than appeal to FOUR actual examples of this kind, which are as unhesitatingly set down at present to the score of fable as they were formerly to that of reality—i. The traditional account among the Greeks of the capture of Troy. ii. The traditional account among the Romans of the foundation of Rome. iii. The traditional account among the Romans of the conception of Romulus. iv. The traditional account among the Romans of the death of Romulus.

i. The tradition of Hellenic antiquity with respect to the capture of Troy, and the circumstances under which it took place.

*Three* criteria or characters of the date of the capture must have been handed down among the Greeks by tradition; as *three* are discoverable in the remains of classical antiquity even at present \*. i. The twelfth of the equable solar month of the time being; and that month the *fifth*, the primitive Greek *Thargelion*. ii. The lunar dichotomy; and that the first of its kind in every month, the *Luna octava*. iii. The cosmical setting of the Pleiads—which means the setting of the Pleiads, on the morning of the day of the capture, as the sun was rising. A *fourth* is discoverable among the Romans, not derived from Hellenic tradition, but from their own Trojan ancestors, in the October equus of the

\* Orig. Kal. Hell. vi. 501–524 sqq.

Roman calendar; and so far, with respect to the month, (the month of October, the month of the cosmical setting of the Pleiads at this æra in the history of the world, for every latitude,) reducible to the same category as the third of the Grecian—and with respect to the day of the month, the ides of October, reducible to the same category as the second of the Grecian; the ides of the month having been the seat of the *Luna octava*, the first lunar dichotomy, all round the calendar of Numa.

From these different criteria then of the date of the event, handed down by tradition, it must be inferred that, if the capture of Troy was a real event in its proper order of time, and these were the characters which it derived from its actual circumstances, the true year of the event must have been some year, and some day in the proleptical Julian month of October in that year, in which the 12th of the primitive Thargelion, the 8th of the Lunar month, and the cosmical setting of the Pleiads, for the latitude of the ancient Troy, met together.

Now with respect to the *year*, we may assume that, if there was ever such a year in early Greek chronology at all, it must have been either that which the two most sagacious and best informed, as well as most diligent, of the chronologers of antiquity, among the Greeks, Eratosthenes and Apollodorus, assigned it, B. C 1183 or 1184, or one very near it<sup>2</sup>.

With respect to the month and the day of the month—  
i. A given equable date cannot fall on a given Julian date for more than four years in succession; and, if it has once ceased to fall on a given Julian date, it cannot begin to fall on it again, in less than 1461 equable years. ii. A given equable solar term having once fallen on a given lunar term, it cannot fall on it again in less than 25 equable solar years; and having once fallen on a given lunar and a given Julian term both at once, it cannot fall on both together again, in less than  $1461 \times 25$  or 36.525 equable solar years. And if this Julian term is also the supposed date of a sidereal phenomenon of a given kind, equable solar, equable lunar, and sidereal time, having once met on that Julian term and once

<sup>1</sup> Origg. Kal. Ital. i. 231–251.

<sup>2</sup> Origg. Kal. Hell. vi. 529.



ceased to do so, could not meet on it again, except after a period of enormous length<sup>a</sup>. It is evident therefore that the actual *year* and *month* and *day* of an event, which was truly distinguished at the time by such characters as these, must lie within very narrow limits indeed.

It has been shewn accordingly in the *Origines Kalendariae Hellenicæ*<sup>b</sup>, that they did all meet together in one year, B.C. 1181, (only two years later than the date of Eratosthenes, and only three later than that of Apollodorus,) and in one month of that year, the month of October, and on one day of that month, the 19th—That October 19, reckoned according to the Julian rule from midnight, B. C. 1181, was the 12th of the primitive Greek Thargelion, similarly reckoned, *Æra Cyc.* 2826—That October 12 having been the actual date of the new moon of that month in that year, October 19 was the actual date of the Luna 8<sup>a</sup>—and the date of sunrise October 19, B. C. 1181, for the latitude of Troy, having been 6 h. 21 m. 2 sec. apparent time, and the Pleiads having set, for the same latitude, on the same day, at 6 h. 16 m. 38·4 sec. apparent time, October 19 was the Julian date of the cosmical setting of the Pleiads also.

ii. The traditionary account among the Romans of the foundation of Rome.

The most circumstantial particular of this event, handed down by tradition, was the lunar character of the event; that Rome was founded on the day of a lunar and solar conjunction, and, what is more, an ecliptic conjunction<sup>c</sup>. To put this tradition to the test, two data, it is evident, are necessary; i. the true year of the Foundation—ii. the true day in that year.

i. With respect to the year of the Foundation, we might, if we pleased, assign it at once from the testimony of Polybius, resting on what must have appeared to him a competent authority, though singular of its kind, the *πίναξ* of the people of Anchise in Italy, B. C. 750<sup>d</sup>. But, according to the mode of arriving at the truth on such questions of fact as this, which *we* profess to adopt in our *Fasti* and *Origines*, and which I am proposing to illustrate at present, we should

<sup>a</sup> Cf. *Fasti*, iii. 44 n.

<sup>b</sup> vi. 548.

<sup>c</sup> *Origg. Kal. Ital.* i. 107.

<sup>d</sup> *Origg. Kal. Ital.* i. 53.

be bound to get at it through the history of the Nundinal corrections of ancient Italy, of which that of Romulus, coeval with the Foundation, was the last, yet regularly derived from those which had preceded it.

i. Then, this succession of the types of the Nundinal correction has been traced<sup>e</sup>, in the proper Nundinal period of 120 equable years, from the first of the number, the Umbrian, July 19, B. C. 1340, to the fifth in the general succession, the second of the Etruscan types in particular, March 25, B. C. 860, when a change was made in the period, from 120 years to 110, destined from that time forward to be the measure of the Etruscan *sæculum* also<sup>f</sup>.

ii. It has also been shewn<sup>g</sup>, that the Nundinal correction of Romulus, intended for the use of his own city, and coming into being along with it, was simply the calendar of this second Etruscan type, as it was standing at the end of its first secular Period, Feb. 4, B. C. 750—unchanged except in the names and the lengths of its months.

It followed from these premises that the true year of the Foundation must have been the first year of the second Etruscan *sæculum*, B. C. 750: and that was confirmed by the doctrine peculiar to this period in connection with the destinies of cities; and also by the discovery of a *decursus* of Roman *sæcula*, from this epoch of the Foundation, running parallel to the Etruscan, but bearing date with the second of the Etruscan as the first of the Roman<sup>h</sup>.

ii. With respect to the *day* of the Foundation. The Roman date of this day in the style of the calendar from Numa downwards never was any thing but that of the xi Kalendas Maias<sup>i</sup>; but the meaning of the xi Kal. Maias, it is to be observed, both in the calendar of Numa, and in every state of the calendar later than Numa's, before the Julian correction, was April 20, not April 21: and xi Kal. Maias, or April 20, in the calendar of Numa, was the 80th day in every year of the cycle of that calendar also, from the kalends of Januarius, as the first. And that being the case, forasmuch as the calendar date of the Foundation in the correction of Numa must have been derived to it from the calendar of

<sup>e</sup> Origg. Kal. Ital. ii. 341-558.

<sup>f</sup> Ibid. 594.

<sup>g</sup> Ibid. i. 133-158.

<sup>h</sup> Ibid. ii. 594-599. 604. 617.

<sup>i</sup> Ibid. i. 3.

Romulus; if it was the 80th day in the calendar of Numa, it must have been the 80th day in the calendar of Romulus. And that being assumed, it follows that if the 80th day in the calendar of Romulus, B. C. 750, was the 80th day from Feb. 4, it must have been April 24; and if the 80th day at that time was the day of the Foundation, April 24, B. C. 750, must have been the day of the Foundation. And this too was confirmed by the relation of the day of the Foundation to the Palilia, or feast-day of Pales, traditionally handed down from the first; and by the relation of the feast-day of Pales to the Natale Mundi; and by the relation of the Natale Mundi to this Julian term of April 24<sup>k</sup>.

iii. The year of the Foundation then being now known, and the day of the Foundation in that year being also known, we are in a condition to test the truth of this date, and that of the tradition relating to it, by its agreement or its disagreement with the character handed down of it, the ecliptic conjunction on that day. This has been done in the *Origines Kalendariæ Italicæ*. It appears from actual calculation that there *was* an eclipse of the sun, for the latitude of the ancient Rome, on the morning of April 24, B. C. 750, the middle of which was about an hour after sunrise; and consequently just at the time when the ceremonies of the Foundation were most likely to be going on<sup>l</sup>. So that a truer and more genuine character of the event than *this*, That Rome was founded in the midst of a solar eclipse, could not have descended to posterity.

iii. Traditionary account among the Romans of the Conception of Romulus.

Roman tradition has been constant and uniform to this *one* point in the personal history of the founder of Rome, that his conception took place in the midst of a solar eclipse<sup>m</sup>. The data required for the verification of this tradition also are not necessarily more than *two*, i. the *year* of the birth of Romulus, ii. the *day* of the birth of Romulus.

i. With respect to the year of the birth,—it might be obtained from the year of the Foundation, now known, B. C. 750, and from the age of Romulus, at the Foundation, handed

<sup>k</sup> Origg. Kal. Ital. i. 102-105, 108, 109, 388.  
<sup>m</sup> Ibid. 326.

<sup>l</sup> Ibid. 111-117.

down also, 18 or 19<sup>m</sup>; for if he was 19 complete B. C. 750, he must have been born B. C. 769. But I prefer to obtain it from those matters of fact, at the knowledge of which we arrived through the history of the second miracle<sup>n</sup>, as its effects or consequences of a permanent kind at Rome—more especially that of the institution of the *Sexagenarii de Ponte*; the explanation of which necessarily led to the inference that, if Romulus had still been living May 31, B. C. 710, he too must have been 59 years old complete—from which it followed that he must have been born on or before May 31, B. C. 769.

ii. With respect to the day of the birth this year, we arrive at the discovery of the truth through the history of the Quirinalia of the Calendar of Numa<sup>o</sup>. For i. These Quirinalia, it appeared, were instituted by Numa, in honour of Romulus, yet after his death. ii. As so intended and so instituted, they were attached not to the day of the *death*, but to the day of the *birth*, of Romulus. iii. The stated date of the Quirinalia in the Calendar of Numa, xiii Kal. Januarias, under the circumstances of the case, must have fallen in the first instance on Feb. 5 P. If so, the birthday of Romulus, still fresh in the recollection of the Romans in the first year of Numa Pompilius, must have been Feb. 5, B. C. 769. And this was confirmed by the traditionary circumstances of his birth, in other respects, in general; especially that of the season of the year, the early spring, and the state of the Tyber, at the time, overflowing its banks<sup>q</sup>.

The birth of Romulus then having been thus determined to Feb. 5, B. C. 769, we are in a condition, with the help of one more datum, to test the truth or the falsehood of the tradition relating to the conception. Nothing is now wanted for that purpose except the natural standard of the interval between birth and conception, or conception and birth, in the case of the human subject. And though the actual interval of this kind may not be the same in every instance; there is a general and approximate estimate of it, consistent with experience and observation every where—which might be assumed *a priori* in any given instance, as the most likely

<sup>m</sup> Orig. Kal. Ital. i. 326.  
i. 329 seqq.

<sup>n</sup> Supra, 126, 127.  
p Ibid. i. 329-332.

<sup>o</sup> Orig. Kal. Ital.  
q Ibid. i. 327, 328.



to be confirmed by the event—the interval of 275 or 276 days<sup>r</sup>. And as the question in the present instance concerns not only the birth of Romulus, but that of Remus also, of these two measures of the interval in question, we should be justified in assuming the longer, that of 276 days, as the more likely to be the true.

Reckon then 276 days back from Feb. 5, in the Julian calendar, B. C. 769, and you come to May 5, B. C. 770; or reckon 276 days forwards from May 5, B. C. 770, and you get to Feb. 5, B. C. 769—and in either of these cases, if Feb. 5, B. C. 769, was the true day of the birth of Romulus and Remus, May 5, B. C. 770, it might very probably be assumed, must have been that of their conception.

Calculate then, in the last place, the new moon of May, B. C. 770, for the meridian of Rome, and you find as follows s—

B. C. 770.					
			h.	m.	s.
Mean New moon	May 5	0	43	39	m. t. Rome.
True New moon	May 5	10	50	28	m. t. —

solar eclipse—that he was last seen alive just as an eclipse of the sun was setting in, and never again, alive or dead, after it was over. In other words, the day of his death, (which posterity called his translation to heaven,) was the day of a solar eclipse<sup>t</sup>.

The data required for the verification of this tradition also are only two: i. The *year* of the death of Romulus; ii. The *day* of his death in that year. We collect the *year* of his death from his age, traditionally handed down too, at his death<sup>v</sup>, 54 or 55, i. e. 54 complete, and from the year of his birth, already determined, B. C. 769. For if he was born Feb. 5, B. C. 769, he must have been 54 complete, Feb. 5, B. C. 715. We know the *day* of his death from the traditional style of that day, in the calendars of later date, the *Nonæ Quinctiles*, the *Nonæ Caprotinæ*, the *Nonæ Juliæ*; implying that its original style in the calendar of the time being, the Nundinal calendar, was the *seventh* of the *fifth* month, the seventh of the *Quinctilis* of Romulus, the 127th day from the first of his *Martius*, in every year of his Calendar alike<sup>t</sup>.

These two data then being assumed, i. That the year of the death of Romulus was B. C. 715; ii. That the *day* of his death that year was the 127th in the Nundinal Calendar of the time being—the epoch of the calendar being known, Feb. 4, B. C. 750—and its nature and laws being known—first, we trace it from Martius 1, in the first year of the æra of this correction, Feb. 4, B. C. 750, to Martius 1, in the 43rd, Jan. 20, B. C. 715. Secondly, we reckon 126 days from Martius 1 this year, and we get to Quinctilis 7 in the same; and we reckon 126 days from Jan. 20, B. C. 715, and we get to May 26 the same year. Jan. 20 then, B. C. 715, being the Julian date of Martius 1, in the 43rd year of the Nundinal æra of Romulus, May 26 must have been the Julian date of Quinctilis 7 the same year.

Calculate therefore as before the new moon of May, B. C. 715, for the meridian of Rome<sup>y</sup>.

B. C. 715.

		h.	m.	s.
Mean New moon	May 26	8	48	33 m. t.
True New moon	May 26	17	22	59 m. t.

<sup>t</sup> Origg. Kal. Ital. i. 118.    <sup>v</sup> Ibid. i. 333.    <sup>x</sup> Ibid. i. 120, 124.    <sup>y</sup> Ibid. i. 125.

And the sun's true distance from the node, at this time also, having been about  $5^{\circ} 40' 9''$ —there must have been on this occasion too a very great eclipse of the sun. If so, it must have been *that* which Roman tradition uniformly connected with the disappearance of the Founder of Rome. It is observable also that, as all the other traditionary circumstances of the event conspire to determine it to the evening of its proper day<sup>z</sup>, so this eclipse likewise was at its maximum about sunset the same day. The sun set May 26, B. C. 715, for the latitude of Rome, about 19 h. 7 m. 21 sec. mean time, from midnight—the eclipse was at its middle about 1 h. 44 m. before<sup>a</sup>.

SECTION VIII.—*On the antiquity of the Alphabet, and of the use of Letters; and on the light reflected upon that question by the discoveries of the Fasti and the Origines.*

The confirmation of Traditional History by the natural measures of time, and by the civil calendar of the time being, in four such instances as those which have just been considered, is well calculated to open a question of great moment and equal interest; viz. Whether the knowledge of the past, however remote, among the several generations of later times, did not ultimately rest on some more substantial and permanent foundation than that of oral testimony? And this question would soon be decided in the affirmative, might it only be assumed, on certain or highly probable grounds of belief, that, howsoever far back it might be necessary to go, to arrive at the fountain-head of traditional history, the possession of the Alphabet, the knowledge of Letters, the art and use of Writing, among mankind, went still further back. If the means of fixing the circumstances of passing events always existed among men, it is gratuitous and unreasonable to assume that no use was ever made of them; that nothing, for a long time, went down from generation to generation, but oral traditions of the past; that written contemporary records in short may not have been after all the ultimate authority for much, if not the whole, of the unwritten tradition of subsequent primitive antiquity itself.

<sup>z</sup> Orig. Kal. Ital. i. 126.

<sup>a</sup> Ibid. i. 125, 126.

And with respect to this question, of the possession or non-possession of the alphabet by mankind, from the first, as a simple question of fact; the first and most indispensable of the necessities of social existence was, no doubt, the faculty of speech, and the possession and use of an articulate language, by means of which the members of such a society might at all times converse together by word of mouth. The next, and scarcely a less indispensable one, must have been the means of communicating with each other at a distance—the means of conversing with their posterity as well as with their contemporaries—the means of recording passing events for the information of future ages, and future generations. Each of these most indispensable of the conditions of that social state, which the Creator himself appointed for his own rational creatures in particular from the first, was equally well known to him beforehand; and each of them was as likely *a priori* to be provided for by him as the other. And if he *did* himself give mankind the faculty of speech and the use of a *Language* from the first, on the strength of that fact alone it might be assumed that he must also have given them an *Alphabet* and the knowledge of *Letters* from the first.

It has often been argued that, if the invention of language had been left to mankind themselves, though endowed by their Maker with the organs of speech, and with the capability of using them, neither *one* man, nor *any number* of men, could have succeeded in the attempt. And if the first invention of a language under such circumstances would have been an impossibility, how much more the invention of an Alphabet, the language of language itself! how much more impossible the discovery by men for themselves, the distinction asunder, and the classification, of those simple sounds, the primary elements of all articulate utterance, and the same at bottom for all languages alike! What remains then but to conclude, (and to accept the conclusion with thankfulness,) that, as the first spoken language was certainly the immediate gift of the same Creator, who made the first pair of mankind, so the first alphabet must have been *his* gift too? I have always persuaded myself that, if we would think most worthily as of the power and greatness so of the



wisdom and goodness of the common Creator of all things, and yet most becomingly as of the place and dignity so of the qualifications and perfections of that one of his creatures, who was appointed to be his own representative among the rest, we should be bound to assume on the strength of the reasonableness and consistency of the assumption itself, *a priori* to all proof of the fact, that the mind of a creature, like Adam, formed in the image and after the likeness of his Creator himself, must have reflected, in its proper measure and degree, the knowledge and wisdom, and the other perfections, of the Divine intellect itself; and must have found itself stored from the very first with every description of knowledge, which was best adapted to the conditions of his being—as designed for the equal and associate of beings like himself, but as the head and superior of all the inferior creatures of his own world—and yet compatible with the original innocence and purity of his moral nature. And though it might not be every kind or degree of the intellectual furniture of the human mind at present, which would appear to have been suitable for the still unsullied and heaven-tempered air of Paradise, no one could say that the possession of the alphabet, and the knowledge of letters, would not have been as compatible with the laws of Man's moral nature even in Paradise, as the possession and use of language.

And as to the preservation, and the transmission to posterity, of such a primitive Alphabet, if it really existed from the first, there is no reason why natural means should not be considered sufficient for that purpose, from the Creation to the Deluge—and from the Deluge to any conceivable extent downwards. Even the confusion of Babel, however much it might affect the unity of language, from the nature of the case could have no such effect on the unity of the Alphabet. The simple elementary sounds, of which the Alphabet is the digest and compendium, run through all languages alike, and are limited everywhere to the number of the letters of the alphabet. Articulate speech, language properly so called—these primary elements of all language in the shape of the various combinations of which they are capable<sup>b</sup>—may be

<sup>b</sup> Appendix, note FF.

diversified and multiplied to any extent. A primitive alphabet therefore, if any such actually existed, along with a primitive language, might be expected *a priori* to have survived even such a shock to the unity and integrity of a primitive language, as the confusion of Babel itself; and, if notwithstanding the dissolution of that unity, thus miraculously brought about, a community of origin is still discoverable in postdiluvian languages, how much more to be expected would it be, that a community of origin and even an unity of essence should still be discoverable in postdiluvian Alphabets!

And yet, from the nature of the case, to admit even the probability of such a discovery—the principle of unity thus perceptible, it might be expected *a priori* also, would be found not in the simple sounds of which the alphabet is composed everywhere, but in the artificial distinctions and characters, of which even those sounds themselves were capable of becoming the subjects in different instances. These simple sounds, in themselves, are the primary elements of all articulate utterance, and in every form and shape—older than speech or language—older than the alphabet itself, everywhere; those external distinctions and characters are the names, the order, the numerical value, the figures, and the like, of the letters of the alphabet themselves, all artificial and positive in their origin, and liable consequently *a priori* to be determined in a variety of ways. All at least which can be assumed *a priori* of the connection between language and the alphabet from the first, is that, if there was a primitive language as well as a primitive alphabet, these characteristic distinctions of the component parts of this primitive alphabet would probably be borrowed from that primitive language; and if this primitive alphabet, with such characteristic distinctions of its own from the first, survived the primitive language, these proper notes and characters of all alphabets, through those of some one or other of the postdiluvian alphabets, may still serve as a clue to the discovery of the primitive language.

Now the comparison of the oldest alphabets formerly in use or still in use, *inter se*, with respect to such distinctions as these of the signs, the names, the order, the phonetic or

numerical value, of the letters in each, leads to an inference of this kind; that, if more or less of a common type in these respects runs through them all, it is that of the old Hebrew alphabet. The Hebrew alphabet, with its characteristic distinctions, must have been the prototype of all, more especially of all the oldest of their kind. And if this conclusion too leads to another inference, (as it naturally does,) that the Hebrew language, on this principle, must have been the primitive language, without going any further at present into the consideration of that question, I will merely observe, in confirmation of the presumption thus suggested, that, if every term which occurs in the first chapter of Genesis, as the name of something imposed on its proper subject, for the first time, by the Creator himself—Ioum for day, Lileh for night, Ibeshch or Arets, for dry land or earth, Im for sea, Shemesh for heaven, was taken from the Hebrew; and if every proper name which occurs in the history of the Old Testament down to the confusion of languages itself, with an explanation of its meaning, Adam, and Eve, and Cain, and Seth, and Noah, and Babel, as the explanation in each instance shews, is Hebrew also; the conclusion from these facts seems to be inevitable—That, if the language which supplied these names and etymons was that of the antediluvian state of things, that language must have been the Hebrew.

The strongest proof, however, of this fact is Gen. iv. 26, which, understood and translated as it is, in the authorised English version—Then began men to call on the name of the Lord—has given, and must continue to give, so much trouble to commentators—as if it could reasonably be supposed that men began to acknowledge their relation to their own Creator by prayer, or by other acts of worship, only at the birth of Enos, the grandson of Adam through Seth. But the words of the original should be rendered, “Then was it begun to invoke by the name of Jehovah”—and their meaning in that case will be simply that, from and after the birth of Enos, in the third generation from Adam, bore date also the introduction and use of that name, which had long been the recognised style and title of the Supreme Being, as the one proper object of prayer and praise, before

the book of Genesis itself was written, the name of *JEHOVAH* <sup>c</sup>. And the first solemn adoption of this most expressive and significant name for the object of all the offices of religion, especially those of prayer, being here described as the common act of the Antediluvian world of that epoch, it is almost superfluous to observe that the language which furnished this name must have been the common language of that epoch: and if the Hebrew, and the Hebrew only, could have supplied that name, the Hebrew, and the Hebrew only, could have been the Antediluvian language.

If these considerations then have had any effect in predisposing the reader for the admission of the fact that the possession and the use of the letters of the alphabet may possibly have descended along with human society from the first, he will be better prepared to receive and appreciate the evidence of the fact itself, if any thing of that kind is discoverable, which, beginning from a time when there can be no doubt of its truth, is capable of being traced further and further back, until it ascends almost up to the beginning of things. Let us then see what grounds there may be for a general induction to this effect, from proofs of the fact in particular instances, more and more ancient of their kind, the further the investigation is continued.

First, then, to begin with the ancient Italy. It may be taken for granted on the strength of such facts as these, that the possession of the alphabet, and the art of writing, must have been older in Italy i. Than the laws of the Twelve Tables, B. C. 449 <sup>d</sup>: ii. Than the Sibylline oracles, B. C. 531 <sup>e</sup>: iii. Than the institution of the census, and the commentaries of Servius Tullius, B. C. 552 <sup>f</sup>: iv. Than the date of the second miracle, B. C. 710 <sup>g</sup>: v. Than the laws and constitutions of Numa, the songs of the Salii, and the beginning of the *Annales Maximi*, B. C. 712 <sup>h</sup>: vi. Than the *πῦλαξ* of the people of Anchise, B. C. 750 <sup>i</sup>: vii. Than the rise and appearance of Tages, and the Tagetic books and doctrines, B. C. 860 <sup>k</sup>: viii. Than the date of the first miracle, B. C.

<sup>c</sup> Appendix, note GG.

<sup>f</sup> *Ibid.* ii. 262. 280.

<sup>i</sup> *Ibid.* i. 53.

<sup>d</sup> *Origg. Kal. Ital.* i. 397-410.

<sup>g</sup> *Ibid.* ii. 518.

<sup>k</sup> *Ibid.* ii. 581.

<sup>e</sup> *Ibid.* ii. 613.

<sup>h</sup> *Ibid.* i. 27. 166, 172 *h*.



1520,—among the Mæonians of Asia first, and among the Etrurians of Italy, their descendants next<sup>m</sup>.

Secondly, The knowledge and use of writing among the ancient Greeks, in like manner, must have been older, i. Than the Hymns of Homer, B. C. 504<sup>n</sup>: ii. Than the Works and Days of Hesiod, B. C. 569<sup>o</sup>: iii. Than the Axons and Kyrbs of Solon, B. C. 593<sup>p</sup>: iv. Than the sphere of Thales, B. C. 602<sup>q</sup>: v. Than the poems of Archilochus, Sappho, and Alkæus, circa B. C. 650—620<sup>r</sup>: vi. Than the Olympic Disc, B. C. 880<sup>s</sup>: vii. Than the Laws of Lycurgus, B. C. 884<sup>t</sup>: viii. Than the poems of Homer, B. C. 910 and 909<sup>v</sup>: ix. Than the foundation of Halicarnassus, circa B. C. 1041<sup>x</sup>: x. Than the last year of the siege of Troy, B. C. 1181<sup>y</sup>: xi. Than the temple of Dionysos ἐν Λίμναις at Athens, circa B. C. 1206<sup>z</sup>: xii. Than the Titanomachia of Melampus<sup>a</sup>, and probably the Σαρδῆες of Orpheus, B. C. 1230: xiii. Than the time of Bellerophon, circa B. C. 1241<sup>b</sup>: xiv. Than the Laws of Minos in Crete, B. C. 1260<sup>c</sup>: xv. Than the Πέτρωμα of Naδς at Pheneæ, circa B. C. 1300<sup>d</sup>: and the Laws of Triptolemus, and the Thesmophorian Θεσμοὶ, B. C. 1310<sup>e</sup>: xvi. Than the foundation of Argos, and the succession of Priestesses of Io, Isis, or Hera, B. C. 1346<sup>f</sup>: xvii. Than the πίναξ of Cadmus, B. C. 1347<sup>g</sup>.

Thirdly, in like manner, to judge from the allusions which occur in the Bible from the Eisodus upwards, the use of letters, and consequently the possession of the alphabet, among the people of Israel, or the Egyptians, or the contemporaries of both, must have been older, i. Than the book of Jasher, B. C. 1520<sup>h</sup>: ii. Than the book of the Wars of the Lord, B. C. 1522<sup>i</sup>: iii. Than the book of Job, contemporary probably with the interval, between the Exodus and the Eisodus, B. C. 1560—1520<sup>k</sup>: iv. Than the first numbering of the people, B. C. 1560<sup>l</sup>: v. Than the record of the oath of *Jeho-*

<sup>m</sup> Origg. Kal. Ital. ii. 518. 564 <sup>n</sup>.      <sup>n</sup> Origg. Kal. Hell. i. 319.  
<sup>o</sup> <sup>l</sup> Ibid. i. 196—318.      <sup>p</sup> Ibid. i. 42 <sup>n</sup>.      <sup>q</sup> Ibid. vi. 630.      <sup>r</sup> Ibid. i. 228 <sup>n</sup>.  
<sup>s</sup> Ibid. v. 565. 568.      <sup>t</sup> Ibid. v. 563.      <sup>v</sup> Ibid. vi. 289—500.      <sup>x</sup> Ibid. iii. 370.  
<sup>y</sup> Iliad. H. 186.      <sup>z</sup> Origg. Kal. Hell. v. 30, 31.      <sup>a</sup> Ibid. iv. 536 <sup>n</sup>.  
<sup>b</sup> Iliad Z. 168—170, cf. Orig. Kal. Hell. iv. 558.      <sup>c</sup> Ibid. iv. 409—414.  
<sup>d</sup> Ibid. iv. 183.      <sup>e</sup> Ibid. iv. 290. 294.      <sup>f</sup> Ibid. i. 130: ii. 195: vi. 204.  
<sup>g</sup> Ibid. v. 142—144.      <sup>h</sup> Joshua x. 13, cf. 2 Sam. i. 18.      <sup>i</sup> Numbers xxi. 14.  
<sup>k</sup> Job xiii. 26, 27: xix. 23, 24: xxxi. 35.      <sup>l</sup> Numbers i. 2 sqq.: xxvi. 64.

*vah-nissi*, B. C. 1560<sup>m</sup>: vi. than the seven years' of plenty in Egypt, cir. B. C. 1787<sup>n</sup>.

Thus far, of the possession and use of the alphabet and of letters, among the ancient Italians, the ancient Greeks, the ancient Idumæans, the ancient Egyptians, and the people of Israel—as possible to be collected from the testimony of facts recorded in the Bible, or discoverable in profane antiquity. Let us now pass to the particular proofs of the same fact in all parts of the ancient world in general, supplied by the corrections of the calendar, and by the cycles of antiquity, which the researches of the *Fasti* and the *Origines* have brought to light.

In the first place, though they have brought to light no instance of the use of the first and simplest of the measures of time, the Noctidiurnal cycle, by no greater a measure of itself perpetually than one cycle of day and night at a time, they have discovered many of the reckoning of this cycle by a certain number of repetitions of itself; in particular, the Hebdomadal, of Patriarchal and Levitical antiquity, a cycle of seven such terms; the Nundinal, of Italian antiquity, a cycle of eight; and the Sexagesimal, of Chinese antiquity, a cycle of sixty. And of each of these, and especially of the longest, it might very well be questioned, whether it could have been uniformly observed, according to its proper rule, (as it appears to have been *de facto* all along,) without some written scheme and delineation of its order perpetually. If not—then the use of the sexagesimal cycle in China will argue the possession of the art of writing by the Chinese from as far back as B. C. 742 at least<sup>o</sup>; that of the Nundinal in Italy will imply the same thing among the Italians as far back as B. C. 1340<sup>p</sup>; and the use and observance of the Hebdomadal will imply the existence and use of letters among the Patriarchs from the beginning of things itself.

In like manner it may admit of a question, whether the reckoning of civil annual time in the form of the primitive solar year of 365 days and nights, and neither more nor less—or that of civil menstrual time in the form of the primitive solar month of thirty days and nights, could have been kept

<sup>m</sup> Exod. xvii. 14.

<sup>n</sup> Gen. xli. 49.

<sup>o</sup> *Fasti*, i. 567-508, 528-iv.

1-30 Introduction, 73

<sup>p</sup> *Origg. Kal. Ital.* ii. 370 sqq.

every where, as it is seen to have been, without any error, either of excess or of defect, perpetually, if there was no where any check to the possible error of observance in practice—any help to the memory—in the shape of a written account and order of the same things.

But secondly, to come to the cycles of antiquity, in which Noctidiurnal time, and Menstrual in the sense of Lunar, and Annual in the sense of Solar, were blended and combined together in various ways—as, i. the primitive solar and lunar cycle—consisting of 25 equable solar years, 309 lunar months, and 9125 days and nights<sup>q</sup>, perpetually. It must have been impossible to keep such a reckoning from the 1st cycle of this kind, *Æra Cyc.* 1, to the cxxiind, *Æra Cyc.* 3026, (3025 equable years,) as the Egyptians are seen to have done<sup>r</sup>, without the use of tables, and consequently the use of letters.

ii. The Phœnix cycle and Phœnix period<sup>s</sup>—in which 500 mean tropical years, 500 mean Julian, 6184 mean lunar months, and 500 cycles of the lunar mansions, (each of them consisting of an order of 28 terms,) were combined in the same proportion *inter se* perpetually. The mere statement of such a case as this is sufficient to prove the fact for which I am contending—that of the knowledge and use of letters and the art of writing, among the ancient Egyptians, from B.C. 1847 at least, as indispensably necessary, if for no other purpose, yet for *this*, of keeping the Phœnix reckoning perpetually. And that tables of this reckoning *did* exist among them from the first is proved by the *πίραξ* of Cadmus, and the *Φοινίκηα γράμματα*, brought by him into Greece, at the epoch of the second Phœnix cycle, B. C. 1347<sup>t</sup>.

iii. Simply Julian corrections of the Primitive calendar, and the proper cycle of leap-year of each. Indispensable as an uniform rule of this cycle is to the very essence of the simply Julian reckoning; it may be doubted whether in any given instance of such a reckoning its proper cycle of leap-year could always be kept true to itself, with no safeguard of the rule perpetually but memory—whether it could be, even at present, without our almanacks. And yet the Egypt-

<sup>q</sup> Fasti, ii. 470.

<sup>r</sup> Supra, p. 155 sqq.

<sup>s</sup> Fasti, iii. 499 sqq. 532 sqq.

<sup>t</sup> Orig. Kal. Hell. v. 142-144.

ians, as we have already explained<sup>v</sup>, had two Julian types, one of which went as far back as B. C. 1848, and the other as B. C. 1350, each with a proper cycle of leap-year of its own, the relations of which *inter se*, and to their proper standard of reference, never varied; and of which the latter is still true to its original relations, and to the proper Julian cycle of the same kind from the first, through its agreement with that of the Julian or the Gregorian calendar of the present day.

iv. Cyclico-Julian corrections of the Primitive calendar, with a cycle of leap-year of 120 years, instead of *four*; a still more numerous family of such corrections, and yet one, which begins to be discoverable as early as the xivth century before the Vulgar *Æra*, and is capable of being traced from that point of time almost round the whole of the Primitive calendar itself. It is scarcely conceivable that so long a cycle, and in so many distinct and independent instances, could have been accurately reckoned every where, (as it appears to have been<sup>x</sup>,) without tables.

v. Octaëteric corrections of the Primitive calendar; the simplest form indeed of the combination of lunar and solar, in the sense of Julian, time—yet still in a period of 8 Julian years, two cycles of the Julian leap-year, 99 lunar months, and 2922 days and nights—a much longer and more intricate one of its kind, than could have been trusted to memory solely perpetually. Yet we discover one cycle of this kind among the Greeks, which must have been regularly kept from B. C. 1260 to B. C. 468<sup>y</sup>; and another, which we can trace from B. C. 1222 to B. C. 541<sup>z</sup>; and a third, which we can trace from B. C. 1206 to B. C. 566<sup>a</sup>—each in exact conformity to one and the same rule of administration from the first.

vi. The 59 years' cycle; both in the simple period of 59 solar or Julian years, 730 lunar months, 21,557 days and nights; and in its period of ἀποκατάστασις—four of the simple periods, 236 Julian years, 2920 lunar months, 86,229 days and nights. The mere description of such a cycle is enough to convince any one that it could not possibly have

<sup>v</sup> Page 13 and 175.    <sup>x</sup> Introduction, p. 20.    <sup>y</sup> Origg. Kal. Hell. iv. 548.

<sup>z</sup> Ibid. vi. 51.

<sup>a</sup> Ibid. iv. 43-60.



been kept true to its own principles and assumptions perpetually, without tables; and yet there was certainly *one* cycle of this kind among the Greeks, which must have been so kept from B. C. 1250 to B. C. 306<sup>b</sup>.

vii. Nundinal corrections of the Primitive equable calendar—in the period of 120 equable, 144 Nundinal, years. 1484 lunar months of the Nundinal standard<sup>c</sup>—the very supposition of which is a sufficient ground of inference that to keep such a reckoning perpetually must have required the constant assistance of tables. Yet *five* types of this particular kind of reckoning are discoverable in ancient Italy, each of them alike derived from the Primitive calendar, each of them, after the first, at intervals of 120 equable years asunder, each of them borrowing its own distinctive characters from those of the one before it, and all the last four, theirs from those of the first—extending too from B. C. 1340 to B. C. 860, or, (if we include the correction of Romulus itself derived from the fifth,) to B. C. 750.

viii. The correction of Numa Pompilius, a solar period of 24 Julian years, a Lunar one of 299 lunar months, a nocturnal one of 8766 days and nights, a Nundinal one of 1095 Nundinal cycles, and six Nundinal feriæ over; which returned to the relations of origination in all respects, only in one greater period of four of these, 96 Julian years, 1196 lunar months, 35,064 days, 4383 Nundinal cycles<sup>d</sup>. It is impossible that such an account of civil time as this could have been accurately kept, both in the details and in the wholes, perpetually, without a written exemplar continually in the hands and before the eyes of the administrators of the calendar at Rome. And in this instance we know from testimony that such an exemplar actually existed. The Fasti of Numa had been committed to writing from the first—only, down to B. C. 304, (in which year they were first made public to the whole of the body politic at Rome,) as confined to the Pontifical college<sup>e</sup>.

ix. Lower than this correction we need be at no pains to trace the keeping of civil time at Rome in written Fasti.

<sup>b</sup> Origg. Kal. Hell. iv. 636. 666. 682 *u*.

<sup>d</sup> Ibid. i. 177–279. 269: ii. 15: iv. xx. sqq.

<sup>c</sup> Origg. Kal. Ital. ii. 342 sqq.

<sup>e</sup> Ibid. i. 58. 287.

No one can doubt that the Decemviral correction had such Fasti, from B. C. 449 to B. C. 209; and the Irregular calendar from B. C. 209 to B. C. 46; and the Julian correction from B. C. 46 to A. D. 225<sup>f</sup>. I have myself brought to light a remarkable proof of the facility with which the Pontifical college could go back in the archives of the Fasti from a given lower date to a much earlier one—as for example, from B. C. 51 to B. C. 154<sup>g</sup>.

x. Metonic corrections—i. The oldest, that of the Sacred calendar, 304 Julian years, 16 cycles of 19 years, 3760 mean Lunar months, 111,035 days and nights perpetually<sup>h</sup>. Tables must obviously have been necessary for such a reckoning as that. It is absurd to suppose it could have been trusted simply to memory—and writing, as we have seen, among the Israelites, at least, was much older than the date of this correction, B. C. 1511. ii. Next to this, in point of time, the Hindu correction, 247 Julian years, 13 cycles of 19 years, 3055 lunations, with one intercalary month of 28 or 29 days, at the end of every period, for a certain number of such periods one after another, until the head of the calendar had been advanced thereby from October 1 B. C. 946 to March 22 A. D. 538<sup>i</sup>—which never could have been done, regularly and exactly as it was done, without written schemes and delineations of the process, both before it began, and as long as it was going on. iii. Next to this, the Theban or Diospolitan correction in Egypt, B. C. 889, the simply Metonic cycle of 19 Julian years, 235 Lunar months<sup>k</sup>, regularly administered, as we have seen<sup>k</sup>, down to a late æra. There is no more reason to suppose this could have been done all that time with the Metonic calendar of Diospolis or Thebes, without tables, any more than with the Metonic correction at Athens, from B. C. 432 to A. D. 127. And the Metonic correction, we know was committed at Athens from the first not to memory, but to a *Parapegma*<sup>l</sup>.

xi. The ecliptic cycles of antiquity—i. The simple period of 18 equable years, 15 days, and 7 or 8 hours, (6585 d. 7 or

<sup>f</sup> Origg. Kal. Ital. iii. 32 sqq. : iv. 1 sqq.

<sup>g</sup> Ibid. iii. 168–189.

<sup>h</sup> Introduction to the Tables of the Fasti, 79–96. Prolegomena ad Harmon. cap. i. 9 sqq. <sup>i</sup> Fasti, ii. 85 : iv. 31–90. <sup>k</sup> Ibid. iv. 217–242. <sup>l</sup> Origg. Kal. Hell. i. 438.

8 h.) 223 lunar months. ii. This period tripled, and called the Saros or Excligmus—54 equable years, 46 days, (19,756 days,) 669 lunar months<sup>m</sup>. It is absurd to conceive for a moment that either of these could have been used and applied perpetually, without tables; yet we know the fact from testimony, (and I have myself verified testimony in that respect,) that eclipses were observed and recorded among the Egyptians in the former, from B. C. 848 to B. C. 324, and among the Chaldees, in the latter, from B. C. 794, and among the Etrurians in the latter also, from B. C. 619<sup>n</sup>.

xii. The Chaldean Sossus, Nerus, and Sarus, successive periods, designed for the adjustment of mean sidereal to mean solar time, and one taking up another in the administration of the process—the first, the period of 60 years, in which the anticipation of 365 mean solar, on 366 mean sidereal, days, on the assumptions of the Chaldees, amounted to 24 minutes, the 60th part of a day; the second, the period of 600 years, in which it amounted to *four* hours, or the sixth part of a day; the third, the period of 3600 years, in which it amounted to 24 hours, or one mean solar day. It is inconceivable that a reckoning of so much nicety as this, and of two such different kinds of time simultaneously, could have been kept correctly in both its parts without tables; and if not, these three periods alone, which are confessedly of Chaldaic origin<sup>o</sup>, and were peculiar to the Chaldees, and intimately connected with their astrological system from the first, are demonstrative of the use of letters among them in particular, from as far back as the institution of that system at least, and the date of the correction of the Primitive calendar, which accompanied it, B. C. 1106.

xiii. After this, it is superfluous to insist on the Planetary cycle and Planetary houses, a cycle of *seven* terms circulating in one of *twelve* perpetually; or on the cycle of Planets and cycle of Decania, a cycle of *seven* terms circulating in one of *thirty-six*—characteristic also of the astrological sphere of antiquity, whether among the Egyptians, from B. C. 798, or among the Chaldeans, from B. C. 1106<sup>p</sup>. Neither could these have been independent of tables—and tables, in all

<sup>m</sup> Fasti, iv. 91.

<sup>o</sup> Fasti, iv. 94.

<sup>n</sup> Orig. Kal. Ital. ii. 480. Hellen. vi. 647-654.

<sup>p</sup> Ibid. iii. 483-498.

these cases, implying the use of letters, for numerical calculations as well as for writing—or numerical characters, as well as the letters of the alphabet—we may sum up this review of the proofs of the fact for which we are contending—in the words of Pliny the Elder<sup>q</sup>—*Æternus litterarum usus*—as old at least as man himself, and the beginning of social existence. Such proofs of the antiquity of letters might give a colour of verisimilitude even to the statement of Josephus<sup>r</sup>, of the erection of two Pillars, by the posterity of Seth, conveying the discoveries of the Patriarchal æra to their future descendants; one of them proof against the action of water, the other, against that of fire.

SECTION IX.—*On the services rendered by the Origines Kalendarix Hellenicæ to the study of Grecian Antiquity.*

The subject-matter of the third Part of the *Fasti* and *Origines*, as I explained<sup>s</sup>, having naturally distributed itself into two principal Divisions, one, the history of the Primitive Calendar among the Greeks from the Legislation of Solon downwards, the other, the same history from the Legislation of Solon upwards—with respect to the first of these Divisions, and the contents of the first three volumes of the *Origines Kalendarix Hellenicæ*, devoted exclusively to this Division, curious, interesting, and numerous, as well as new, as are the facts brought to light, and confirmed by the necessary proofs, in these first three volumes, yet as they go no further back than B. C. 592, and come down as low as the second or third century of the Christian æra, they are all comprehended within the limits of Greek history, properly so called; and consequently, for the sake of brevity, may be left out of the scope of the present review of the services rendered by the *Origines Kalendarix Hellenicæ* to the study of Grecian Antiquity in particular.

And with respect even to the other Division of this Part, and the contents of the last three volumes—great and unexpected as may be the light thereby reflected on that which is justly considered the dark, the unexplored, the uncertain.

<sup>q</sup> H. N. vii. 57. pag. 272.

<sup>r</sup> Ant. Jud. i. ii. 3.

<sup>s</sup> Advertisement to

the Reader, p. vi.



and the controversial period of Grecian antiquity itself, it may still be desirable, for the sake of brevity, to confine the review which I propose to institute of the facts brought to light, and of the conclusions established, by the method of proceeding and the kinds of proof peculiar to this work, to a few general heads; such as i. The earliest history of the ancient Greeks: ii. The Theogonia of the ancient Greeks: iii. The Mythology of the ancient Greeks.

i. Then, with respect to the earliest history of ancient Greece, I have verified the tradition relating to the Lake of Thessaly; and through the traditionary date of the Thessalian Peloria, and the ascertained date of the Pythian Institution, and of the Natalis of the Pythian Apollo, and the connection of both with Thessaly in particular from the first, I have probably succeeded in recovering the actual date of the convulsion of nature, which converted the Great Plain of Thessaly from an inland sea into an habitable country—viz. Mesore 17, of the primitive civil reckoning, *Æra Cyclica* 2425, August 26 of the proleptical Julian reckoning, B. C. 1581: which, by a singular coincidence, turns out to be also the first of the dates on the Parian Marble, corrected merely by *one* year, as all its dates, traced upwards from a certain time, required to be<sup>v</sup>. And the same discovery enables us very probably also to assign the motives, and the final end, and the approximate date, of the institution of the Amphictyonic council<sup>x</sup>.

ii. I have verified the tradition of Hellenic antiquity relative to the migrations of colonies from Egypt, at different times, to Greece; by the discovery of one, under Cadmus, to Bœotia, B. C. 1347; of another, under Danaus, to Argos, B. C. 1346; of a third, under Erechtheus or Erichthonius, to Attica, B. C. 1342; and I have assigned a sufficient explanation of the beginning of those migratory movements in Egypt—whether in the direction of Greece, or in any other—just at this time, in the fact of the simultaneous beginning of one of the greatest, and most laborious, and longest of the national works of the ancient Egyptians themselves, the ex-

<sup>t</sup> Origg. Kall. Hell. v. 719-730.

<sup>v</sup> Ibid. i. 189: ii. 28. 30 n.: v. 728.

<sup>x</sup> Ibid. v. 735 seqq.

cavation of the lake of Mæris, first undertaken B. C. 1350, three years at least before the first of these colonies to Greece, and prosecuted without interruption for many years afterwards <sup>y</sup>.

iii. I have assigned the probable date of the foundation of Bæotian Thebes—that of the *Καδμεία* at least—April 8, B. C. 1347 <sup>z</sup>; and the probable date of that of the *Πόλις* of Erechtheus, as well as of the entire series of early Attic kings, beginning with Erechtheus as the first, in the date of his Athenæa, May 16, B. C. 1342 <sup>a</sup>.

iv. I have fixed an epoch in the personal history of Pelops, later than that of his coming into Greece, through the date of his Cronian institution, June 25, B. C. 1264 <sup>b</sup>.

v. I have fixed an epoch in early Arcadian history, and in the personal history of one of the reputed founders of the Arcadian name and nation, through the date of the Lykæan institution of Lycaon <sup>c</sup>, April 25, B. C. 1260.

vi. I have fixed an epoch in the earliest history of Crete, and in the personal history of Minos, and in the history of his reforms and legislations in Crete, through the date of his Octaëteric correction, Sept. 23, B. C. 1260 <sup>d</sup>.

vii. I have fixed an epoch in early Bæotian history in the date of the fifty-nine years' cycle of Alalcomenæ, July 5, B. C. 1250 <sup>e</sup>.

viii. I have probably recovered the date of the institution of the Panionia, among the Ionians of the Peloponnese, April 24, B. C. 1248 <sup>f</sup>.

ix. I have fixed one epoch in early Attic history in the date of the death of Androgeus, May 15, B. C. 1246, and another, in the date of the first of the three *Δασμοί*, Sept. 23, B. C. 1244 <sup>g</sup>.

x. I have fixed an epoch in the personal history of the Hercules of Greek antiquity, in the date of his Olympian correction of the Cronia of Pelops, June 25, B. C. 1240 <sup>h</sup>.

xi. I have fixed three epochs in the personal history of Theseus; the first, in the date of his Isthmian institution,

<sup>y</sup> Orig. Kal. Hell. v. 128. 519; iv. 42. cf. Fasti, iii. 192 sqq.

v. 118-167.

<sup>a</sup> Ibid. iv. 61-128.

<sup>b</sup> Ibid. v. 510-547.

<sup>z</sup> Ibid.

iv. 567-591.

<sup>d</sup> Ibid. iv. 388-457. 458-547.

<sup>c</sup> Ibid. iv. 660-688.

<sup>f</sup> Ibid. iii. 373.

<sup>e</sup> Ibid. iv. 500-507.

<sup>h</sup> Ibid. v. 547-560.

June 17, B. C. 1228; the second, in that of the third Δασμὸς, Sept. 23, B. C. 1228; the third, in the date of his Panathenæic institution, July 20, B. C. 1206<sup>i</sup>. And I have probably fixed the Natales of the Athens of Theseus, in contradistinction to the Πόλις of Erechtheus, in the date of the Συνοικισμὸς, July 8, B. C. 1206<sup>k</sup>.

xii. I have fixed the date of the first expedition against Thebes, through that of the Nemean institution, May 17, B. C. 1222; and that of the second expedition, through the date of the second Nemea, May 17, B. C. 1202<sup>l</sup>.

xiii. I have probably fixed the date of the colony from Argos to Rhodes, under Tlepolemus, and of the foundation of the three cities, Lindus, Jalysus, and Camirus, on or about July 27, B. C. 1206<sup>m</sup>.

xiv. I have verified the tradition of Hellenic antiquity relative to the War of Troy; both in the date of the preparations, B. C. 1200, and in the date of the expedition, B. C. 1190, and in the date of the capture, B. C. 1181, and in the date of the return, B. C. 1180<sup>n</sup>.

xv. I have recovered the probable date of the Delia of classical antiquity, April 25 B. C. 1181<sup>o</sup>.

xvi. I have fixed an epoch in the early history of Rhodes, in the date of the Haleia, August 25 B. C. 1181, and that of the Tlepolemeia, August 25 B. C. 1180<sup>p</sup>.

xvii. I have fixed an epoch in early Bæotian history, that of the return from Thessaly, and the recovery of Thebes, through the date of the Parthenian institution, June 1, B. C. 1117<sup>q</sup>.

xviii. I have fixed the year of the return of the Heraclidæ, B. C. 1097, through the date of the Carnean Ennead, August 19 B. C. 1096<sup>r</sup>; and that of the final settlement of the Spartans by the reduction of Amyclæ, through the date of the Hyakinthian or Amyclæan Ennead, July 17 B. C. 1072<sup>s</sup>.

ii. With respect to the Theogonia of the ancient Greeks, i. I have traced the Ὀγκάλα or Ὀγκά of Bæotian antiquity up to the Isis of the Egyptians, brought into Bæotia by Cadmus,

<sup>i</sup> Origg. Kal. Hell. vi. 240-265; iv. 43-60; 507-526; v. 266.      <sup>k</sup> Ibid. iv. 60.      <sup>l</sup> Ibid. vi. 157-175.      <sup>m</sup> Ibid. v. 263-268.      <sup>n</sup> Ibid. vi. 454-478 n. 501-567.      <sup>o</sup> Ibid. vi. 86-120.      <sup>p</sup> Ibid. v. 235-268.      <sup>q</sup> Ibid. v. 346-361.      <sup>r</sup> Ibid. v. 381-406.      <sup>s</sup> Ibid. v. 428-452.

B. C. 1347<sup>t</sup>; and the Io or Hera of Argive antiquity to the Isis of Danaus, B. C. 1346<sup>v</sup>; and the Athena of Attic antiquity to the Neith of Saïs, B. C. 1342<sup>x</sup>; and the Demeter of Eleusis to her prototype also in the Egyptian Isis, B. C. 1310<sup>y</sup>; and the Athena of Alalcomenæ to the Athena of Erechtheus, and through that the Neith of Saïs, B. C. 1250<sup>z</sup>; and the Itonia of Thessaly (probably of equal antiquity with the Athena of Alalcomenæ<sup>a</sup>) to the Egyptian Isis also.

ii. I have ascertained the birthplace of the Cronos and the Rhea of the Greek Theogonia, the island of Crete; and the date of the first introduction there of the name and the worship of both, Sept. 23 B. C. 1300<sup>b</sup>.

iii. I have traced the first conception of the idea of the gods and goddesses of the classical Olympus itself, to the island of Crete also, and to the six Cosmogonic powers or principles of Minos, B. C. 1260, Histia and Pluto, Deo and Posidon, Hera and Zeus<sup>c</sup>.

iv. I have probably assigned the date of the introduction of the name and worship of the Posidon of classical antiquity into the Peloponnese, through the date of the Panionian institution, April 24 B. C. 1248<sup>d</sup>.

v. I have assigned the date of the introduction of the name and worship of the Olympic Zeus into the Peloponnese, through the date of the Olympic institution of Hercules, June 25 B. C. 1240<sup>e</sup>.

vi. I have assigned the date of the introduction of the name and worship of the Hellenic Dionysos, through that of the Dionysian correction of Melampus, Sept. 7 B. C. 1230<sup>f</sup>.

vii. I have ascertained the date of the first conception, and first introduction of the name and worship, of the Hellenic Apollo, the Hellenic Artamis or Artemis, and the Hellenic Lato, through that of the Pythian institution, August 26 B. C. 1222<sup>g</sup>.

viii. I have pointed out the mode, and probably the time, of the adoption of the Athena of Erechtheus, the Athena of

<sup>t</sup> Origg. Kal. Hell. v. 161.

<sup>v</sup> Ibid. v. 96: vi. 204-208 *n*.

<sup>x</sup> Ibid. iv. 5-21.

<sup>y</sup> Ibid. iv. 212-228.

<sup>z</sup> Ibid. iv. 663 *n*.

<sup>a</sup> Ibid. ii. 482-488.

<sup>b</sup> Ibid. iv. 354-388. 436-441.

<sup>c</sup> Ibid. iv. 414-457.

<sup>d</sup> Ibid. iii. 365-381.

<sup>e</sup> Ibid. v. 547-560.

<sup>f</sup> Ibid. v. 58-105.

<sup>g</sup> Ibid. v. 625-719.



the earlier Greek antiquity, into the family of the Olympic gods, and in the relation of the daughter of Zeus, B. C. 1206 f.

ix. I have probably fixed the time of the introduction of the name and worship of the Arcadian Pan, properly so called, in the date of the Arcadian correction, Dec. 26 B. C. 493 g.

iii. With respect to the mythology of the ancient Greeks. It did not come within the proper scope and comprehension of any part of this present work to enter *ex professo* on the explanation of the fables of antiquity: but such of those of Greek mythology as fell in the way of this third Part, in the prosecution of its proper argument, it has explained. And among these will be found some of the most singular of the number, and the least capable, at first sight, of any rational explanation. As i. The fable of the devouring of his children by Cronos, all but Zeus, and their restoration by him to life again<sup>h</sup>. ii. The fable of the Minotaur<sup>i</sup>. iii. The fable of the War of the Gods and the Titans<sup>k</sup>. iv. The fable of the Dragon and the teeth of the Dragon, and of the Sparti, of Cadmus; and through the analogy of that, the cognate fable of the Dragon and the Sparti of Æetes, and the Golden Fleece<sup>l</sup>. v. The fable of Ino and Melikertes, Phrixus and Helle<sup>m</sup>. vi. The fable of the Telchines, and that of the Heliadæ, of Rhodes<sup>n</sup>. vii. The fable of the Pytho<sup>o</sup>. viii. The fable of the cow of Cadmus<sup>p</sup>. ix. The fable of Tityus<sup>q</sup>. x. The Delian fable of Anius and the *Οἰνοτρόποι* <sup>r</sup>.

Lastly, to specify the services rendered by this Part of the Origines to Greek literature in particular, as well as to Grecian antiquity in general, i. it has recovered the calendar of the Anabasis of Xenophon, with the help of which we are enabled to trace the chronology of the expedition from day to day, almost from first to last<sup>s</sup>. ii. It has recovered the calendar, and with the calendar, the chronology, of the Argonautica of Apollonius Rhodius also<sup>t</sup>. iii. It has recovered the calendar, and through that the chronology, and the date of the com-

<sup>f</sup> Origg. Kal. Hell. iv. 135-143. 443, 444: v. 266.

<sup>g</sup> Ibid. iv. 619.

<sup>h</sup> Ibid. iv. 421-441.

<sup>i</sup> Ibid. iv. 469.

<sup>k</sup> Ibid. iv. 527.

<sup>l</sup> Ibid.

v. 144-153. 167 sqq.

<sup>m</sup> Ibid. vi. 249.

<sup>n</sup> Ibid. v. 269-280. 280-284.

<sup>o</sup> Ibid. v. 634-672.

<sup>p</sup> Ibid. v. 154.

<sup>q</sup> Ibid. v. 377.

<sup>r</sup> Ibid. vi. 99-107.

<sup>s</sup> Ibid. ii. 213-264.

<sup>t</sup> Ibid. v. 284-333.

position, of the Posthomericæ of Quintus Calaber, or Quintus of Smyrna<sup>v</sup>. But iv. The principal service of this kind, (as all the admirers of classical literature will allow,) is the light which this third Part will be found to have thrown on the subjects of controversy relating to the Iliad and the Odyssey,—the individual personality of the author of each, and the date of the composition of each—by the proof of the fact that the natural annual time, the natural lunar time, and the annual civil time, recognised in these two poems throughout, are critically the natural annual, and the natural lunar, time of B. C. 910 and B. C. 909, and the annual civil time of the corresponding years of the primitive *Æra Cyc.* 3097 and 3098 respectively,—and by the inference which necessarily follows from those facts, that these two poems were either written in these two years, (one of them in B. C. 910, the other in B. C. 909,) or, whensoever they were written, must have been purposely adapted to them<sup>x</sup>.

SECTION X.—*On the services rendered by the Origines Kalendarie Italicæ to the study of Italian or Roman Antiquity.*

i. The *Origines Kalendarie Italicæ*, (the second Part of the *Fasti* and *Origines* in general,) have rendered the student of Italian or Roman antiquity an essential service, by ascertaining the date of the first of the corrections of the primitive equable calendar, peculiar to ancient Italy, the Umbrian type of the Nundinal correction, July 19 B. C. 1340, and thereby fixing the probable beginning of society or civilization itself in Italy—with the arrival of the first body of settlers in that country from abroad. And not the less so, by having traced also the first idea of this peculiar correction, which I have called the Nundinal, through its resemblance to the Phœnix period of the Egyptians, ultimately to Egypt; and thereby confirming the native tradition of Italy itself, that the oldest of its inhabitants, the Umbrians, came originally from Egypt<sup>y</sup>.

ii. They have rendered him a similar service by tracing the idea of the Nundinal correction, thus originated, from the

<sup>v</sup> Orig. Kal. Hell. iii. 267-291.

<sup>x</sup> Ibid. vi. 289-300. 400-500.

<sup>y</sup> Orig. Kal. Ital. ii. 341-370. 370-373. 373-388.

Umbrian type, with which it began, through *four* more, each of them peculiar to and characteristic of a different people of ancient Italy; the first, of the ancient *Sabini*; the second, of the *Prisci Latini*; the third and the fourth, of the ancient Etrurians: and by means of the dates of these subsequent types respectively, enabling him to approximate to the probable date of the rise of these national distinctions in Italy themselves, and to judge of their comparative antiquity—of that of the *Nomen Sabinum*, through the date of the second type, as not younger in Italy than B. C. 1220; of that of the *Prisci Latini*, through the date of the third, not younger than B. C. 1100; and of that of the Etrurians, through the dates of the fourth and the fifth, not younger than B. C. 980 or 860, in any case, and in reality, (under the special circumstances of the case,) not younger than B. C. 1220<sup>z</sup>.

iii. The *Origines Kalendarie Italice*, along with the *HelLENICæ* also, have brought to light a very probable proof of the derivation of the *Prisci Latini* of Italy, (and thereby the only true explanation of their peculiar name on any rational principle,) as a colony from *Latos* in *Crete*—which migrated to Italy, in consequence of the innovations of *Minos*, in B. C. 1260<sup>a</sup>.

iv. They have ascertained also the date of the supposed first appearance of the Etruscan *Tages*, and of the rise of the *Tagetic* doctrine and discipline, at the epoch of the *fifth* type of the *Nundinal* correction in general, that of the *second* of the Etruscan in particular, March 25, B. C. 860: and along with it that of the *decursus* of *Sæcula*, in the period of 110 equable years. And they have traced this *decursus* from the first of the number, *Æra Cyc.* 3147, B. C. 860, to the end of the last, *Æra Cic.* 4246, Nab. 987, A. D. 239<sup>b</sup>.

v. They have demonstrated the derivation of the *Nundinal* correction of *Romulus* from the second Etruscan type, at the end of its first period of 110 years, *Æra Cyc.* 3257, B. C. 750<sup>c</sup>.

vi. They have traced the succession of the *Nundinal* day,

<sup>z</sup> *Origg. Kal. Ital.* i. Prelim. Add. x-xv: ii. 388-558.      <sup>a</sup> i. 374-377. cf. *Origg. Kal. Hell.* iv. 563 n.      <sup>b</sup> *Origg. Kal. Ital.* ii. 558. 581-599. 604-636.  
<sup>c</sup> *Ibid.* i. 102-133. 133-151.

in the Nundinal cycle of 8 days perpetually, through these five types of the Nundinal calendar in general (including that of Romulus also), and the different forms of the Roman calendar, from the correction of Numa downwards, without interruption or discrepancy of any kind, either *inter se*, or as referrible to contemporary testimony, from the epoch of origination, July 19, B. C. 1340, the *feria* 1<sup>a</sup> of the Nundinal cycle, the *feria* 7<sup>a</sup> of the Hebdomadal cycle, down to Jan. 1, A. D. 355, the *feria* 1<sup>a</sup> of the Nundinal and the *feria* 1<sup>a</sup> of the Hebdomadal cycle, known from testimony at that time<sup>d</sup>.

vii. They have verified the traditionary account of the conception of Romulus<sup>e</sup>. They have verified the traditionary date of the Foundation<sup>f</sup>. They have verified the traditionary account and traditionary date of the death of Romulus<sup>g</sup>.

viii. They have fixed an epoch in the personal history of Numa Pompilius, through the date of his correction of the Primitive calendar, Feb. 17, B. C. 712<sup>h</sup>.

ix. They have brought to light the fact of the revival of the Nundinal calendar of Romulus, (yet without any change in the calendar of Numa, previously in use,) by Servius Tullius, along with the institution of the Census, and the Lustral cycle, B. C. 552; and they have traced the Lustral cycle in this Nundinal calendar, as well as in the Civil calendar of the time being, from its first epoch, B. C. 552, to its second, B. C. 304; and from its second, B. C. 304, to its third, B. C. 80; and from its third, B. C. 80, to its transition into the cycle of Indiction, A. D. 345<sup>i</sup>.

x. They have fixed the date of the Regifuge, June 29, B. C. 508, and the date of the first consulship, the next day; and consequently the interval taken up by the reigns of the kings of Rome, from the Foundation, April 24, B. C. 750, to the Regifuge and first consulate, June 29 and 30, B. C. 508<sup>k</sup>.

xi. They have recovered the Julian dates, (June 20–23,) and traced the cycle, of the *Ludi Sæculares* of the Romans,

<sup>d</sup> Origg. Kal. Ital. ii. 341–710. cf. iv. pag. xxxii–cxv.

<sup>e</sup> i. 326–338.

<sup>f</sup> i. 102–117; ii. 604–613.

<sup>g</sup> i. 118–128. cf. 303–326.

<sup>h</sup> i. 196–204 399q.

<sup>i</sup> ii. 262. 270. 284–289. 319–329.

<sup>k</sup> ii. 133–143. 175. 280.



both those of the period of 110 years, and those of the period of 100<sup>1</sup>.

xii. They have fixed the date of the capture of the city by the Gauls, Aug. 2, B. C. 389<sup>m</sup>.

xiii. They have indicated the corrections required to adapt the *Fasti Consulares* of Varro to the true succession of the consulships, from the Regifuge downwards<sup>n</sup>.

xiv. They have investigated and fixed the beginning of the consular year, according to the rule of the ingress for the time being, whether the *Kalendæ Januariæ* (as at first), or the Ides of December, or the Ides of Martius, or the *Kalendæ Januariæ* again<sup>o</sup>.

xv. They have traced the decursus of Roman Kalends and the cycle of the Nundinal day in conjunction, from the first *Kalendæ Januariæ* in the correction of Numa, Feb. 17, B. C. 712, to the first *Kalendæ Januariæ* in the Decemviral correction, Dec. 29, B. C. 449, verifying both by the necessary proofs perpetually<sup>p</sup>.

xvi. They have authenticated the Roman tradition of the mission of Decemvirs to Greece, by the relation of the Decemviral correction to the calendar of Solon for the time being, and the final end of the correction, discoverable from it<sup>q</sup>.

xvii. They have traced and verified, as before, the decursus of Kalends and the cycle of the Nundinal day, from the first *Kalendæ Januariæ* in the Decemviral correction, Dec. 29, B. C. 449, to the first *Kalendæ Januariæ* in the *Kalendarium Vagum*, or Irregular calendar, Dec. 29, B. C. 209<sup>r</sup>.

xviii. They have assigned the moving cause of the abandonment of the regular cyclical rule of the administration of the calendar, and of the substitution of an irregular administration in its stead; and from the final end of the irregularity itself, they have been enabled to divine and assign the rules, by which only that end could be attained perpetually—and consequently the rules of the irregular administration itself<sup>s</sup>.

xix. They have traced this irregular administration, as subject to such rules, both in the cycle of the Kalends and in that of the Nundinal day, from the first *Kalendæ Januariæ*

<sup>1</sup> Orig. Kal. Ital. ii. 643-669. cf. 409. 418.      <sup>m</sup> ii. 144-156.      <sup>n</sup> ii. 157-174      <sup>o</sup> ii. 178. 207. 234. 243.      <sup>p</sup> ii. 1 sqq. 51 sqq.      <sup>q</sup> i. 420-433.      <sup>r</sup> ii. 29 sqq. 51 sqq.      <sup>s</sup> i. 456-477.

in the *Kalendarium Vagum*, Dec. 29, B. C. 209, to the first *Kalendæ Januariæ* in the Julian correction, Dec. 30, B. C. 46—verifying each by the necessary proofs, at almost every point of the intermediate period<sup>t</sup>.

xx. They have traced the cycle of Kalends and the cycle of the Nundinal day from the *Kalendæ Januariæ* in the first year of the Julian correction, U. C. 709, Dec. 30, B. C. 46, to the *Kalendæ Januariæ* in the 270th, U. C. 978, Jan. 1, A. D. 225; and they have thereby established a fact, as yet unknown to, and even unsuspected by, chronologers, that the Julian correction itself, for the first 269 years of the Julian æra, was scarcely less irregularly administered than the *Kalendarium Vagum* last before it—the motive to the irregularity in this instance also having been the same as in that, viz. the still continuing dread of the Nundinal incidence on the Kalends of *Januarius*<sup>v</sup>.

xxi. They have consequently, as the result of this whole history of the Roman calendar from the first, established the fact beyond the possibility of disproof, that the true date of the Julian correction—as that of a Julian calendar, administered perpetually according to the true law of a simply Julian reckoning, and that, in this case, the proper law of the Julian reckoning of the present system of time from the first—was not the historical date of the correction, the *Kalendæ Januariæ*, U. C. 709, (Dec. 30, B. C. 46,) but the *Kalendæ Januariæ*, U. C. 978; when the actual Julian time of the correction, in the 270th year of its decursus at Rome, and the proper Julian time of the present system of things from the first, in the first year of the xxxvth Julian period of the Tables of the Fasti, both met together, in a state of absolute coincidence and equality, in the same Julian term, Jan. 1, A. D. 225. And they have pointed out the remarkable concurrence of circumstances, (too plainly indicative of a superintending and controlling Providence, to be overlooked,) by which this coincidence was brought about, not a moment sooner, nor a moment later, than the time when it was necessary it should be<sup>x</sup>.

<sup>t</sup> Origg. Kal. Ital. i. 495. 509. 518. ii. 30. iii. 1-526. ii. 51 sqq. <sup>v</sup> Ibid. ii. 39. 48. 51. iv. 1-396. <sup>x</sup> Ibid. i. Preliminary Address, xxvi. sqq. ii. 706. iv. 273: Origg. Kal. Hell. i. Prolegomena, cvi. sqq.

SECTION XI.—*On the services rendered by the Fasti and Origines to Astronomy in particular.*

i. If the principal work of astronomy, even in its most improved and perfected state, according to Bailly<sup>y</sup>, is the determination of the true standard of mean annual, in the sense of mean tropical, time, then the Fasti and Origines, without professing to be the work of an astronomer, or an astronomical work at all, and merely in the prosecution of their own inquiries, may claim to have done more for the solution of this problem, than has yet been done; and among other discoveries made by these researches, to have supplied for the first time this greatest of all desiderata, according to Bailly, even to the perfection of modern astronomy, the true standard of the mean natural or tropical time of the existing system of things.

This discovery is the necessary result of the account which was given *supra*<sup>z</sup>, of the constitution and the rule of administration of the Phœnix Cycle and Phœnix Period of the Egyptians. It appears from that account that 500 mean tropical years and 500 mean Julian years were combined in that cycle perpetually; the former, of such a standard in comparison of that of the latter, that the epoch of the mean tropical time of the cycle fell back on the epoch of the mean Julian, at the rate of 3 days 21 hours of mean solar time, every cycle of the Period. To find this standard therefore nothing is necessary except to diminish the sum of mean solar time in 500 mean Julian years, (182,625 days,) by 3 days 21 hours, and to divide the remainder (182,621 days 3 hours) by 500. The quotient of this division is

365 d. 5 h. 48 m. 50·4 sec., or 365·24225 days.

This must consequently have been the standard of mean tropical time combined in the Phœnix Period with the standard of mean Julian, (365·25 days,) perpetually<sup>a</sup>: and the reader cannot fail to observe it is neither more nor less than the standard of the mean tropical time of the Tables of the Fasti, the standard *in* which and *by* which the mean tropical time of the Fasti is brought down in Division B, and the Solar Cycle of the Tables, from the first.

<sup>y</sup> Fasti, i. 73.

<sup>z</sup> Page 173 *sqq.*

<sup>a</sup> Fasti, iii. 504. iv. 144.

This standard therefore of mean annual tropical time must have been familiar to the ancient Egyptians, when they conceived the idea, and digested the scheme, and adjusted the details, of their Phœnix Period, B. C. 1847 : and yet there is no reason to suppose they had only just discovered it, and for themselves, *there* and *then*. There is no reason to believe that either *this*, or any other, assumption of postdiluvian astronomy, however true to nature, and however agreeable to the opinions or conclusions of modern astronomy on the same points, was self-originated<sup>b</sup>. There is no reason to suppose that the earliest postdiluvian astronomy, in any of its assumptions, however rightly made, rested on any thing but an authority and a prescription derived to the postdiluvian from the antediluvian world<sup>c</sup>. That it must have done so in this particular instance is proved by the readiness with which this standard itself, however true to nature, and however faithfully retained for more than a thousand years, yet, within 50 years of the second revision of the Phœnix Cycle, B. C. 848, was discarded by the Egyptians themselves, to make way for an ideal and imaginary standard of the same kind, founded on purely subjective and arbitrary assumptions. For that never could have been done, if this true standard, instead of having been received on authority, and handed down from one generation of astronomers to another prescriptively, had been originally discovered by observation, and confirmed by observation ever after. It is demonstrated also by the fact that the Mazzaroth sphere, and the Tropical sphere, even as first combined *de facto* at the epoch of the first Phœnix Cycle, B. C. 1847, were after all only the Mazzaroth sphere and the Tropical sphere of the beginning ; and the actual relations of mean tropical time and mean Julian time *inter se*, B. C. 1847, were those of B. C. 4004, 2157 years before, simply as modified by time and precession meanwhile<sup>d</sup>.

If so, this standard of mean tropical time, embodied *de facto* in the first Phœnix Period, B. C. 1847, must have been the traditionary standard of that kind received by the postdiluvian from the antediluvian world. And as to its recogni-

<sup>b</sup> Fasti, iv. 145.

<sup>c</sup> Cf. Orig. Kal. Hell. iv. 404 : Orig. Kal. Ital. Preliminary Address, xxiii. xxiv.

<sup>d</sup> Page 183, *supra*.



tion in the antediluvian world itself, if it really went back even in that to the beginning of mundane time,—if it was neither received from any older tradition, nor yet even then discovered by men for themselves—it must have been one of those *κοινὰ ἔννοιαι*, communicated to mankind by their Creator, of which they found themselves in possession, without any consciousness of having acquired them for themselves, from the very moment of their existence<sup>e</sup>. And what original or archetypal idea of that kind could the Maker of the universe, the Orderer of the solar system, the Author of all its laws, and the Originator of all its movements, communicate to his rational creatures, if he communicated any, except the true?

Now, though this particular standard of mean annual tropical time has never yet been adopted in any of the modern Tables, it is not unknown to modern astronomy; and one of the greatest of modern astronomers, La Place, has left his deliberate opinion on record, that all modern astronomers, for practical purposes, might agree in the recognition and use of this<sup>f</sup>. And besides this opinion of one of the greatest of modern authorities on such a question, there are many properties of this standard in particular, which I myself have often had occasion to advert to, and which are well calculated to draw the attention of astronomers and men of science to a more particular consideration of it, than they have yet bestowed upon it. As i. The proportion of the mean equinoctial time of this standard to the most carefully determined by observation among those of the modern Tables—for instance, that of the Tables of Delambre<sup>g</sup>; which, B. C. 4004, as I have shewn<sup>g</sup>, for the same meridian, that of Jerusalem, at 0° 0' 0'', was that of absolute equality and identity; and at the present day, for the same meridian, is only accidentally different—only in proportion to the difference of standards, this of the *Fasti* and that of Delambre, and the cumulative amount of that difference, between B. C. 4004 and any given epoch of the present day. ii. The proportion of mean natural tropical time of this standard,

<sup>e</sup> *Fasti*, iv. 145.

cxxii. cxxiii.

<sup>f</sup> *Ibid.* iv. 521: *Origg. Kal. Ital. Preliminary Address*,  
<sup>g</sup> *Fasti*, iv. 503–523: *Origg. Kal. Ital. Preliminary Address*,  
 cvii. cxviii. cxxiii.

and mean natural sidereal time, *inter se*; the equality of 365·24225 d. the mean tropical year of this standard, in mean solar time, to 366·24225 d., the corresponding mean sidereal year, in mean sidereal time<sup>h</sup>; and the equality of 25,885 mean tropical years of this standard to 25,884 mean sidereal years<sup>i</sup>. iii. The mean annual value of the arc of precession, which makes the difference between mean natural tropical time of this standard and mean natural sidereal, 50''·069541<sup>k</sup>; and the proportion of this in particular to the average value of a number of determinations of the same kind, according to modern astronomy, 50''·07 also<sup>l</sup>.

iv. Of all the arguments however which might be urged in favour of this one standard of mean annual tropical time, as designated by nature in that capacity from the first; that on which I should be most disposed to insist, and that of which the unscientific and popular reader is almost as competent to judge as the man of science himself, is the singular adaptation of this standard of mean annual tropical time, above all others, and that of mean annual Julian, *inter se*—pre-disposing and qualifying both to go along with each other, in one and the same system of things, like that of the course of time, from the first, and mean natural annual time of this standard in particular to be accompanied and represented by mean Julian perpetually.

To make this appear, it is necessary simply to explain that mean annual tropical time of this standard of 365 d. 5 h. 48 m. 50·4 sec. and mean Julian of the standard of 365 d. 6 h. being assumed to have set out together at any epoch; the former must fall back on the latter at the rate of 11 m. 9·6 sec. every year, and at that of 23 h. 59 m. 38·4 sec. every 129 years—21·6 sec. less than the entire period of 24 hours of mean solar time in 129 years, and 21·6 sec.  $\times$  4, or 86·4 sec. in  $129 \times 4$ , or 516 years. It follows from this fact that, if mean natural time of that standard and mean Julian set out together at any conceivable epoch of the noctidiurnal cycle,

<sup>h</sup> Fasti, iv. 147, 148. Preliminary Address, cxvii.

556 n.: Introduction to the Tables, 242. 240. 253 sqq.

<sup>i</sup> Fasti, iii. 274 n.: Origg. Kal. Hell. i. Prolegomena, xxxiii.

<sup>k</sup> Introduction, 242 sqq.

<sup>l</sup> Fasti, ii. 33. Introduction, 30. cf. Origg. Kal. Ital. Preliminary Address, cxix.: Origg. Kal. Hell. i. Prolegomena, xxxviii.

(say the epoch of midnight), for any meridian (say the meridian of the ancient Jerusalem), and in any year (say B. C. 4004), at the end of 516 mean tropical and mean Julian years, while mean Julian time must be found setting out still at the point of midnight, as at first, mean tropical time must be found doing so, at 86·4 sec. short of the point of midnight.

Now this defect of mean annual tropical time of this standard on the epoch of origination, the point of midnight, 21·6 sec. every 129 years, 86·4 sec. every 516, would accumulate to a day and a night, or one period of 24 hours of mean solar time complete, only in  $129 \times 4000$ , or  $516 \times 1000$  years, that is, 516,000 years;  $21\cdot6 \text{ s.} \times 4000$  or  $86\cdot4 \text{ s.} \times 1000$ , both alike being = 86,400 sec. 24 hours of mean solar time<sup>n</sup>. It follows that mean tropical time of this standard, and mean Julian, once set together at the epoch of midnight, for any meridian, would be predisposed and qualified to go on together, subject to one and the same law of administration—that of returning to the epoch of midnight, in the same year of the cycle of four years, and in the same year of the cycle of 28 years, within 24 hours of mean solar time at least—for 516,000 mean tropical years treated as mean Julian perpetually; and even at the end of that great Period—in order to the rectification of this difference at last, and the adaptation of the same two kinds of time for the decursus of another Period of the same kind also in conjunction, nothing would be necessary except to retain the last Julian type of the first period, as the first Julian type of the second<sup>o</sup>.

It is another necessary consequence of the relation of mean tropical time of this standard to mean Julian, that if the difference between them in one year is 11 m. 9·6 sec., in 4000 years it must be 11 m. 9·6 sec.  $\times 4000$ , or 31 days exactly. And this being in the proportion of 3 d. 21 h. every 500 years, it is manifest that they who devised the Phœnix Period, and assumed the recession of mean tropical time on mean Julian at 3 d. 21 h. in one of those Periods, could not have been ignorant of the cumulative amount of that recession in 8 periods, or 4000 years. And that they were not

<sup>n</sup> Fasti, ii. 27-35: iv. 522, 523.

<sup>o</sup> Ibid. ii. 35: iv. 550.

ignorant of it, but must have contemplated it from the first, appears not only from other proofs of the fact, (calculated at least to raise a strong presumption of it <sup>p</sup>;) but also, and more especially, from the great period of 96 Phoenix cycles, 48,000 years, ( $4000 \times 12$ ), 372 days ( $31 \times 12$ ), destined to comprehend and to measure the entire recession of mean tropical on mean Julian time all round the calendar of Mazzaroth; which, as I have shewn <sup>q</sup>, there is reason to believe the Egyptians must have had in view, at the very first combination of the spheres, (the sphere of Mazzaroth and the sphere of Nature,) B. C. 1847.

It follows too from these relations of mean natural tropical time of this standard to mean Julian, that, if the authors of the Gregorian correction, A. D. 1582, had adopted this standard of 365 d. 5 h. 48 m. 50.4 or 365.24225 d. as the standard of the mean natural year, instead of that which they actually adopted, 365 d. 5 h. 49 m. or 365.2425 d., they would have escaped the excess of a day and a night, to which the mean tropical time of the Gregorian correction, in comparison of mean Julian, is liable every 4000 years. The equation of mean Julian time to mean natural of the Gregorian standard requires only the suppression of 30 leap-days every 4000 years; and the Gregorian rule of the administration of the civil calendar through that length of time provides for no more<sup>r</sup>.

ii. Another important service which the Fasti and Origines may very probably claim to have rendered to astronomy is the discovery of the PRIMARY MERIDIAN. In explanation of this, I observe, that the first absolute beginning—the actual instant of the origination—of one and all of the measures of time which enter the present system of things, as destined to be subject from the first to the proper measure of one of their number, (the Noctidiurnal cycle,) viz. the period of 24 hours of mean solar time, at whatsoever epoch of the Noctidiurnal cycle it took effect, must have been adapted to the local peculiarities of some meridian or other—and that meridian, of which such a coincidence was holding good at the

<sup>p</sup> Appendix, note III.

<sup>q</sup> Fasti, iii. 303. cf. Origg. Kal. Hell. vi. 636.

<sup>r</sup> Fasti, ii. 32: iv. 521. Origg. Kal. Ital. Preliminary Add. cxxi. Origg. Kal. Hell. Proleg. xxxix n.



time, would be designated by the coincidence itself as *Primary* in comparison of every other, of which the same coincidence was not holding good at the time. And it would be a standing distinction between the *Primary* meridian, and every *Secondary* meridian, ever after; that, though every *Secondary* one would have its proper period of 24 hours, as the measure of its proper noctidiurnal time, and as reckoned from the same epoch too in its proper noctidiurnal cycle, none but the *Primary* one could have the same measure of its proper noctidiurnal cycle, and from the same epoch of that cycle, in the shape of the period of 24 hours, both in its *local* time, and in *absolute* time from the first. And the definition of the *Primary* meridian, under such circumstances, briefly stated, would be as follows; That, of which both *absolute* time, and *local* time, reckoned from the same epoch of the noctidiurnal cycle, and in the same period of 24 hours of mean solar time perpetually, began and ended alike <sup>s</sup>.

Now, without insisting on those moral reasons, or those considerations *a priori*, which might conspire to designate the meridian of the ancient Jerusalem, as the most likely of all to have been constituted the *Primary* one in this sense <sup>t</sup>, and to treat this question solely as one of fact, which must be decided by testimony, it appears to me that we possess the necessary testimony of this kind in the œconomy of the second miracle. It has been shewn that neither of these miracles was directed to such an end or purpose as that of permanently disturbing the original division of the noctidiurnal cycle into two parts, an evening and a morning—nor the original proportion of these parts, as one of equality, either absolute or relative. It has also been shewn that the temporary disturbance of this proportion, in the first instance, by the addition of 12 hours to the length of the morning half, could be compensated only by the addition of 12 hours, at some subsequent period, to the length of the evening half. And, as the natural terminator of the reckoning of the noctidiurnal cycle, in the period of 24 hours, from the first, according to the primitive rule, was 6 P. M. of mean time per-

<sup>s</sup> Fasti, ii. 58-67: iv. 503 sqq. Introduction, 213. 215. Origg. Kal. Ital. Preliminary Address, cxiii-cxix.

<sup>t</sup> Fasti, ii. 63. Preliminary Address, cxvi.

petually, it follows from these premises that, if the addition of 12 hours to the length of the cycle, on the second occasion, was made *de facto* at 6 P. M. mean time, in the local time of any particular meridian also, that meridian must have been the Primary meridian.

Now that it was made *de facto* at 6 P. M. mean time for the meridian of Jerusalem, has been shewn both from the other circumstances of the case<sup>v</sup>, and from the fact established of the time of the addition for the meridian of Cai-fong-fou<sup>x</sup>. For if the instant of the addition at Cai-fong-fou was 11 24.52.9 P. M. apparent time, at Jerusalem it must have been 6 P. M. m. t. If so, the local time of Jerusalem, and absolute time, measured by the period of 24 hours from 6 P. M. m. t. perpetually, must have been the same; and the meridian of Jerusalem consequently must have been the Primary meridian.

iii. Another important service which the Fasti and Origines may perhaps appear to have rendered to astronomy, is this. That, if they have not brought to light the actual standard of mean lunar time, at the beginning of the present system of things, they have made a discovery which approximates closely to it.

The Primitive solar year, as I have often explained, had its natural lunar cycle; associated with it too not only by the appointment of nature, but by the use and observance of the civil calendar, from the first. And this natural lunar cycle was so strictly adapted from the first to its natural solar cycle, that it was not liable to fall back upon it at a greater rate than one period of 24 hours, in 24 cycles of 25 years, or 600 equable years. This period of 600 years, as the *annus magnus* of antediluvian antiquity, has been handed down by Josephus<sup>y</sup>. And that, while the Primitive equable year was the only one yet in use, no period of 600 years could have been known to the antediluvian world, but some one of 600 equable years, it requires no argument to prove—nor yet, that any period of 600 years could have been familiarly known of, or recognised, among them, as an *annus magnus* of

<sup>v</sup> Supra, 101–104.

<sup>x</sup> Page 122 sqq.

<sup>y</sup> Fasti, iv. 386.

its kind, (a period of restitution, correction, or rectification, of any two or more different kinds of time, combined with each other in a cyclical reckoning of some kind,) but the natural solar and the natural lunar cycle of the Primitive equable year, follows also from the same reason of things.

For that this period of 600 equable years did actually measure the defect of true mean lunar time on calendar lunar time in the cycle of 25 equable years perpetually—at first—by the period of 24 hours of mean solar time exactly, we cannot desire a better proof than the fact that, even as brought down in the Tables of the Fasti through ten periods of this kind, from *Æra Cyc.* 1 to *Æra Cyc.* 6001, the defect of true mean lunar time on calendar lunar time in this same cycle of 25 years perpetually, at this very day is still little more than in the proportion of one period of 24 hours for every 24 cycles of 25 years, or 600 equable years. The *Luna prima* of the first period of this kind being assumed *Mesore* 14 of Nabon. *Æra Cyc.* 0–1, April 29 at midn. B. C. 4004, and the *Luna prima* of every subsequent period *Mesore* 14 of Nab. for the time being, we should get the *Luna prima* of the xith period *Mesore* 14, Nab. 2741, *Æra Cyc.* 6000–6001, March 20 at midn. A. D. 1992. And the mean new moon of March that year having been March 9, the *Luna prima*, *Mesore* 14, Nab. 2741, March 21, the same year, would be even then only twelve days in excess of the truth<sup>z</sup>.

Now the sum of mean solar time in 600 equable years being 219,000, and the number of mean lunar months in 24 cycles of 25 equable years being 7416, diminish the former by unity, and divide the remainder, 218 999 days, by 7416; the quotient will be the mean lunar standard of the lunar and solar period of 600 equable years<sup>a</sup>,

29 d. 12 h. 44 m. 4.660 194 sec.

Now though the mean lunar momenta are known to be liable to a perpetual acceleration at one time, and a proportionable retardation at another<sup>b</sup>, the astronomers have furnished us with formuke, by means of which the true mean standard of

<sup>z</sup> Appendix, note II.

<sup>a</sup> Fasti, iv. 388. Appendix, note KK.

<sup>b</sup> Fasti, ii. 25. iii. 502. iv. 388. 670–673.

any former or any later epoch may be obtained, with approximate, if not with absolute, certainty, from that of any epoch at the present day, (for instance, A. D. 1801,) as determined by observation. We have therefore for the epoch of B. C. 4004,

	d.	h.	m.	s.
i. From the period of 600 years	29	12	44	4.660 194
From the formulæ of Mr. Challis <sup>c</sup>	29	12	44	4.535 360
Difference				0.124 834
<hr/>				
ii. From the period of 600 years	29	12	44	4.660 194
From the formulæ of Mr. Adams <sup>d</sup>	29	12	44	4.475
Difference				0.185

And this difference in either case is so small, that no one could undertake to say it was not to be accounted for *a priori* by the still existing imperfection of formulæ for so remote an epoch as B. C. 4004, quite as much as by the possibly inherent excess of the mean lunar standard of the period of 600 years.

iv. Among the services rendered by the Fasti and Origines to astronomy, and especially to the history of astronomy, may justly be enumerated the discovery made by them for the first time of such important and interesting facts in that history, as that of the combination of the two spheres, the sphere of nature and the sphere of Mazzaroth—the division of the ecliptic into the lunar mansions—the ultimate development of the zodiac, with the zodiacal constellations, and zodiacal figures, out of that division—the names and symbols of the signs, and the reasons on which they were founded. Nor can modern astronomy be indifferent to such facts in the history of its own science in former times, as those of the origin and progress of the corruption of the pure and unadulterated tradition derived to the postdiluvian astronomy from the antediluvian, by such arbitrary and subjective assumptions as those of the doctrine of the *Genitura Mundi*, and of the alternate *Recession* and *Precession* of the corresponding points of the sphere—and the rate of each, one degree in 80 years, and the period of the movement in either

<sup>c</sup> Fasti, iv. 389.

<sup>d</sup> Ibid. 670. 673.



direction, 10 degrees, 800 years, in the Chaldee sphere, 8 degrees, 640 years, in the Egyptian<sup>e</sup>.

Nor can it be uninterested in the history and explanations of such celebrated periods as the Chaldaic *Sossus*, *Nerus*, and *Saros*—which also has been given in the *Fasti*<sup>f</sup>; implying by their proper relation to each other, on the part of those who first conceived the idea of such periods and in such relations, a clear apprehension of the distinction of mean solar and mean sidereal time. Nor yet in the discovery to which it leads of the origin of the sexagesimal division of the period of 24 hours, and to what people of antiquity it must have been due<sup>g</sup>.

Nor can the modern astronomer be indifferent to the history of a still more celebrated period of antiquity, peculiar to his science, that of the ecliptic cycle, commonly called the *Sarus*—out of what concurrence of circumstances the discovery of this period, in its simple form, came to be made, and by whom; and when it began to be applied to its proper use and purpose, the calculation of solar and lunar eclipses; and the epochal dates of either kind, assumed by it; and how far down from those epochs the series of each is capable of being traced. Nor yet to the history of the modification of this simple ecliptic period, more properly to be called the *Sarus*, subsequently discoverable; first among the Chaldees, B. C. 794, and then among the Etrurians, B. C. 619<sup>h</sup>. Nor yet to the history of the 465 ecliptic Panselena of Eudoxus<sup>i</sup>; or to the history and explanation of the sphere of Eudoxus<sup>k</sup>; or to that of the sphere of Thales<sup>l</sup>; or to the discovery which we are thereby enabled to make of the true time and date of the memorable eclipse of Thales<sup>m</sup>—on all and each of which points nothing is yet known, which has anticipated the discoveries and explanations contained in the *Fasti* and *Origines*.

v. Perhaps however the most essential service which they have rendered not to astronomy only, but to chronology in

<sup>e</sup> *Fasti*, iii. 446. 461. 475 : *Origg. Kal. Ital.* iii. 347 sqq. iv. 168.      <sup>f</sup> *Fasti*, iv. 94 sqq.      <sup>g</sup> *Ibid.* iv. 94. 98.      <sup>h</sup> *Ibid.* 99. 103 : *Origg. Kal. Ital.* ii. 480–490. iv. 237 : *Origg. Kal. Hell.* vi. 647.      <sup>i</sup> *Fasti*, iv. 114 sqq. : *Hell.* vi. 653.      <sup>k</sup> *Fasti*, iv. 131.      <sup>l</sup> *Origg. Kal. Hell.* vi. 630.      <sup>m</sup> *Ibid.* vi. 654.

general, will be found to reside in those explanations of the true nature and the proper rule of administration of proleptical Julian time (Julian time which can only be supposed to have had an hypothetical existence), in contradistinction to historical time of the same denomination—whatsoever its epoch, whether B. C. 45 (that of the Julian correction), or A. D. 225—which have been given, and for the first time, in the *Fasti* and *Origines*.

i. With respect to its nature. It has been clearly established in this work, i. That Proleptical Julian time, as thus explained, is simply the conventional representative of natural annual time, treated, from the necessity of the case, *pro tempore*, as Julian: ii. That Julian annual time, thus substituted *pro tempore* for natural annual, neither was, nor could have been, from the first, any thing but Gregorian Julian<sup>n</sup>: iii. That even simple Julian time, supposed to have come into actual existence at the very beginning of things, must still have set out from the same Julian epoch as this Gregorian, and must have accompanied it ever after as the proper Julian form of this Gregorian<sup>o</sup>: iv. That simply Julian time, coming into being at any epoch in the subsequent decursus of this Gregorian type of natural annual time perpetually, must borrow its epoch of origination from the Gregorian of the time in question, though only to subject it ever after to the law of the simply Julian administration<sup>p</sup>: v. That the Julian time of the Julian correction itself did not and could not pass into the true Julian time of the present system of things at last, except by conforming to this law, and borrowing its own epoch, the kalends of January, U. C. 978, in the 270th year of its decursus, from the proper Julian, in the sense of Gregorian, epoch of the xxxvth type of the natural Julian time of the *Tables*, Jan. 1, A. D. 225—subjecting it ever after to the law of the simply Julian administration of the civil calendar<sup>q</sup>.

And as a necessary consequence of these distinctions in the true proleptical Julian time of the system, it has also been shewn, i. That the equable time of the system, as ne-

<sup>n</sup> Origg. Kal. Hell. i. Prolegomena, xlviii. cliii.      <sup>o</sup> Ibid. cliii.      <sup>p</sup> Ibid. clxii.

<sup>q</sup> Origg. Kal. Hell. i. Proleg. clv.

cessarily referrible to the Julian of the system perpetually, was of two kinds also from the first, Cyclical-Equable, the standard of which was the Gregorian-Julian time of the system, and Nabonassarian-Equable, referrible to the simply Julian form of that Gregorian perpetually. ii. That Cyclical-Equable consequently from the necessity of the case was liable to stand still at stated times, (those of the egress and the ingress of our Julian Periods,) in terms of its proper Julian time, eight years instead of four, before A. D. 225 as much as after, while Nabonassarian-Equable must descend one day in terms of its proper Julian time every four years perpetually, whether before or after A. D. 225. iii. That Nabonassarian-Equable, coming into existence at any particular time in the subsequent decursus of both, must borrow its Julian epoch of origination from the corresponding Julian date of the Cyclical-Equable of the same epoch, and therefore a proper Gregorian date; though merely, in this case also, to subject this equable epoch, and every other dependent upon it, to the law of such terms in the decursus of equable time in simply Julian time perpetually<sup>r</sup>.

ii. With regard to its administration while it was still proleptical Julian time, simply the positive or conventional type of natural annual time, treated *pro tempore* as Julian, involving the question of the proper decursus of annual time, so understood, in noctidiurnal and hebdomadal also, and in the proper Julian style of each—though this is confessedly the most difficult problem with which a retrospective chronology at the present day can have to deal<sup>s</sup>, yet this too, I hope, has been satisfactorily cleared up and explained in the *Prolegomena* prefixed to the *Origines Kalendarie Hellenicæ*<sup>t</sup>.

This question has now been treated in every conceivable way. i. It has been treated as one of the relation from the first of mean annual Tropical time to mean annual Sidereal; and the law of the decursus of both in conjunction, in that relation, has been shewn to be that of the descent of mean annual tropical on mean annual sidereal, (which, under the circumstances of the case, was the same thing as the descent

<sup>r</sup> Origg. Kal. Hell. i. Proleg. clvi-clxix.

<sup>s</sup> Ibid. Preface, page ix.

<sup>t</sup> Page xxi sqq.

of mean annual tropical time on itself,) two terms, cyclically reckoned, in the order of noctidiurnal or hebdomadal, and two terms in the order of the Julian notation, from period to period, down to A. D. 225 at least <sup>v</sup>.

ii. It has been treated as a question of the relation of mean tropical time and mean sidereal alike to mean Julian; and the law of the decursus of both, in that relation perpetually, has been found to be that of the law of *recession* in the epoch of tropical time, and the law of *precession* in the epoch of sidereal, on the epoch of Julian, (remaining stationary and the same with itself perpetually,) at the rate of one feria, cyclically reckoned, in the order of noctidiurnal or hebdomadal respectively, and of one term in the order of the Julian notation respectively, from Period to Period <sup>x</sup>.

iii. Lastly, it has been argued <sup>y</sup> as simply a question of the reckoning of noctidiurnal and hebdomadal time, as what it is *per se*, and consequently reckoned agreeably to the law of the noctidiurnal in the hebdomadal succession, from the same epoch of the noctidiurnal cycle, or the same *feria* of the hebdomadal perpetually—and as what it is as making part of natural annual time, and reckoned agreeably to the law of the decursus of noctidiurnal time in annual, from the head or epoch of the natural year perpetually. And these two conditions (that of the reckoning of noctidiurnal and hebdomadal time *per se*, from a given epoch of the noctidiurnal cycle on a given feria of the hebdomadal perpetually, and that of the reckoning of noctidiurnal and hebdomadal time, as entering into and making part of annual, from the head of the natural year perpetually) being incompatible with each other, except at the beginning and the end of our Periods respectively,—it is manifest that, under the circumstances of the case, the rule of administration of both in practice conjointly must be of the nature of a compromise, whereby noctidiurnal and hebdomadal time, as making up the proper annual time of every period, for the first half of its decursus in that relation, should be reckoned from midnight on the *feria* of origination, and for the second

<sup>v</sup> Orig. Kal. Hell. Proleg. xxi—xxx: li—lviii.

<sup>x</sup> Ibid. Proleg. p. cxviii—clii.

<sup>y</sup> Ibid. cxi n.



half from midnight on the *feria* next before that of origination. And this, it is manifest, must be the true explanation of the phenomenon for which we have to account—the actual descent of mean natural annual time, so long as this rule of reckoning its proper noctidiurnal time was still the only one which, under the circumstances of the case, could apply to it and be in force—two terms instead of one, in the order of hebdomadal, from period to period perpetually <sup>z</sup>.

<sup>z</sup> Appendix, note LL.

# APPENDIX.

## NOTES AND EXPLANATIONS.

NOTE A, page 2. The different kinds of annual time, which have made part of the existing system of things from the first, being assumed as FIVE in number, two of them *positive* or *civil*, the other three *natural*—(the two former, Equable solar and mean or actual Julian, the three latter, mean Tropical, mean Sidereal, and mean Anomalistic—) Equable solar is the cycle of 365 days and nights; mean Julian is the cycle of 365 days, 6 hours, (365.25 d.); actual Julian is the cycle of 365 days and nights every three years in succession, and of 366 every fourth year: mean Tropical, in the standard of the Fasti, is the cycle of 365 days, 5 hours, 48 minutes, 50.4 seconds, or 365.24225 d.; mean Sidereal is the cycle of 365 days, 6 hours, 9 minutes, 9.567 454 798 331, or 365.256 360 734 53<sup>a</sup>; mean Anomalistic is the cycle of 365 days, 6 hours, 13 minutes, 53.482 430 465 seconds<sup>b</sup>.

Of these three kinds of Natural annual time, the true measure of mean natural annual time, in the sense of an entire revolution of the earth about the sun, or from a given point in its orbit to the same again, perpetually, is the mean sidereal year<sup>c</sup>; in the sense of the revolution of the seasons, or of the cycle of natural production, (and consequently of that in which mankind always have had and still have the greatest interest,) it is the mean tropical year. Mean anomalistic too is as much an integral constituent part of the natural annual time of the existing system of things as mean sidereal or mean tropical, and perhaps to the unity and integrity of the system the most essential of all<sup>d</sup>.

Mean annual tropical time is reckoned from the intersection of the plane of the equator and the plane of the ecliptic, or  $\sigma \sigma'$  of the sphere, perpetually. Mean annual Sidereal is reckoned from some fixed point in the orbit of the earth or the sun to the same again, perpetually; which point, as the epoch of the true mean sidereal time of the present system of things, may be assumed to have been the intersection of the ecliptic, and an arc of the sphere, connecting the two stars Beta and Zeta Tauri, at the mean vernal equinox, B. C. 4004; one of which (Beta) was standing at that time about 4° N. of the ecliptic, and the other (Zeta) about 4° S. of the same<sup>e</sup>. Mean annual anomalistic time, as I have already explained, is reckoned

<sup>a</sup> Cf. Origg. Kal. Hell. i. Proleg. cxxii.  
240-243. 202-206.

<sup>b</sup> Cf. Introduction to the Tables,  
<sup>c</sup> Origg. Kal. Hell. i. Proleg. xxi-xxvii.

<sup>d</sup> Cf. Introduction, 202-206. 243. Fasti, iv. 509-512. 520 (cf. 669, 670), 556 n.

<sup>e</sup> Fasti, iii. 258-268. Introduction, 241, 242.

from one arrival of the mean sun at the apogee or perigee of the solar orbit to another, perpetually.

The length of the mean Sidereal year and that of the mean Anomalistic of the Fasti, in the mean motion of the Tables, are obtained from that of the mean Tropical<sup>f</sup>; and should it be objected to this latter that it appears to have been arbitrarily assumed and without any previous proof of the truth of the assumption, the answer to that objection will be found both in the Fasti<sup>g</sup>, and in the last section of chapter ii of the present work.

The annual difference of these four kinds of annual time, mean Julian, mean Tropical, mean Sidereal, and mean Anomalistic, *inter se*, is as follows<sup>h</sup>:

	m.	s.
i. Mean Julian and mean Tropical .. ..	11	9.6
ii. Mean Sidereal and mean Julian .. ..	9	9.567 454 798
iii. Mean Anomalistic and mean Julian .. ..	13	53.482 430 465
iv. Mean Sidereal and mean Tropical .. ..	20	19.167 454 798
v. Mean Anomalistic and mean Tropical .. ..	25	3.082 430 465
vi. Mean Anomalistic and mean Sidereal .. ..	4	43.914 975 666

Mean Tropical time, mean Sidereal, and mean Anomalistic being all supposed to have set out from the same given point in space, or the same given point of the sphere, the intersection of the arc of conjunction of the two stars Beta and Zeta Tauri with the ecliptic, in  $0^{\circ} 0' 0''$ , for the meridian of the ancient Jerusalem, B.C. 4004; mean sidereal is the only one of them which has returned to and set out from this epoch of origination, every year, since. Mean Tropical has fallen back upon it every year at the rate of  $50''.069\ 541$  in angular motion, 20 min. 19.167 454 798 sec. in mean solar time, and mean Anomalistic has advanced upon it every year at the rate of  $11''.66 + 50''.069\ 541$ , or  $61''.729\ 541$  in angular motion, 25 min. 3.082 430 645 in mean solar time<sup>i</sup>.

Mean Anomalistic time having thus taken its rise at  $0^{\circ} 0' 0''$  of the sphere, for the proper meridian, B.C. 4004, and the line of the Apsides, as it is called, (the line which connects the apogee and the perigee of the solar orbit,) and the line of the Equinoxes, (the line which connects the vernal and autumnal equinox,) having consequently at that time coincided; it is very important to observe that two of the most obvious conditions which might be expected *a priori* to characterize and define the absolute epoch of a mixed system of time, like the present, were holding good at that time, which have never held good since; one, that all these kinds of time being intended to take their origin from the vernal equinox, it made no difference at that time whether they were reckoned from the mean vernal equinox, or from the true—because at this moment there was no difference between the mean vernal equinox and the true itself; the other, that all being destined to be measured from this time forward by the period of 24 hours perpetually, it made no difference at this time whether this period itself were reckoned in mean time, or in true, in the sense of appa-

<sup>f</sup> Cf. Introd. 202–206. 240–243. Tables xxxiv–xxxix. Also, p. 244.

<sup>g</sup> iv. 144.

<sup>h</sup> Cf. Introd. lxxxii.

<sup>i</sup> Cf. Introd. 242, 243, 244.

rent, because at this time mean time and true, in the sense of apparent, were the same<sup>k</sup>.

Note B, page 4. It was characteristic of the Primitive Civil Calendar to have no names for its months, except those of order and number, the *first*, the *second*, &c.<sup>l</sup> Proper names appear to have been given to the months first by the Egyptians; and, in my opinion, at the epoch of the Sothiacal Period, B.C. 1350<sup>m</sup>.

I borrowed these names for the use of the Equable Calendar of the Fasti<sup>n</sup>; and, for the sake of future reference in the present work also, it may be desirable to subjoin them here too.

*Equable solar Calendar of Primitive Antiquity, under the Egyptian names of the Months.*

Month.	Length.	Names.	Month.	Length.	Names.
i	30 days	Thoth	vii	30 days	Phamenoth
ii	30 ..	Phaophi	viii	30 ..	Pharmuthi
iii	30 ..	Athyr	ix	30 ..	Pachon
iv	30 ..	Chœac	x	30 ..	Paüni
v	30 ..	Tybi	xi	30 ..	Epiphi
vi	30 ..	Mecheir	xii	30 ..	Mesore
180			360		
Appendices, Epagomenæ, Supplementary days			5		
			365		

Note C, page 5. Mazzaroth is an Hebrew term, which occurs in that form, Job xxxviii. 32, and in the form of Mazzaloth, 2 Kings xxiii. 5. In each case the thing denoted by it is the ecliptic, in general, but as made up of the twelve signs, in particular<sup>o</sup>.

For the explanation of the sphere of Mazzaroth, see *infra* chap. ii. sect. iv<sup>p</sup>.

Note D, page 8. When we consider that a given term in the mean tropical year cannot fall on a given term in the mean Julian for more than 129 years together, and that when a given term in the former has once ceased to fall on a given term in the latter, it must fall on every day in the mean Julian year, reckoned backwards, before it can begin to fall on it again; we shall see that simply to bring back the same term in the mean natural year to the same in the mean Julian must require a period of  $365.25 \times 129$  years, or 47 117.25 years at least.

And when we consider further that, whatsoever the epoch of the Noctidiurnal cycle, (sunset, sunrise, midnight, or noon,) at which *this* term in the mean tropical year set out along with *that* term in the mean Julian,

<sup>k</sup> Fasti, ii. 130-137. Origg. Kal. Ital. Prelim. Add. exi. cxiii. <sup>l</sup> Cf. Fasti, i. 589. Origg. Kal. Hell. i. 84 sqq. <sup>m</sup> Cf. Fasti, iv. 182. 184. <sup>n</sup> Cf. Introd. 44-48. <sup>o</sup> Fasti, iii. 250 sqq. <sup>p</sup> Cf. Introd. 194. 196. Page ii, Table 1.



even at the end of 129 years it would not return to that epoch of the noctidiurnal cycle, but to one, 21.6 sec. in anticipation of it; and further, that this small defect of 21.6 sec. on the epoch in question would accumulate to an integral cycle of day and night measured by the period of 24 hours perpetually only in 4000 periods of 129 years, 516 000 years, we shall see that to bring back the *same* term in the mean tropical year to the *same* term in the mean Julian, and to the same epoch of the noctidiurnal cycle, both at once, would require a period of  $365.25 \times 129 \times 516\,000$ , or 24 312 501 000 years at least.

And further, when we consider that though this period of  $129 \times 4000$ , or 516 000 years would bring back the same term in the mean tropical year to the corresponding one in the mean Julian, at the same epoch of the noctidiurnal cycle, and in the same year of the cycle of leap-year, it would not bring it back to the same *feria*, and the same epoch of that *feria*, of the Hebdomadal cycle, (or, what is the same thing, to the same year of the cycle of 28 years,) it will be evident that to bring back the same term in the mean tropical year to the corresponding one in the mean Julian, and to the *same* epoch in the noctidiurnal cycle, and the *same feria* in the hebdomadal, all at once, would require a period of  $516\,000 \times 7$ , or 3 612 000 years, drawn into and compounded with a period of  $365.25 \times 129$ , that is, a period of 170 187 507 000 years.

And these considerations may give the reader an idea of the magnitude of the period which would be necessary even for the purpose of restoring the relations of origination of none of the kinds of time which enter the present system of things, but the mean tropical and the mean Julian, and in no other respects but *these*, of the same epoch of the noctidiurnal cycle, the same *feria* of the hebdomadal, the same nominal natural, and the same nominal Julian style, in the same year of the cycle of leap-year, and in the same year of the solar cycle, or cycle of 28 years.

But this is not all. For if natural mean lunar time, as having entered the same system of things from the first, is also to be taken into account, and a period is consequently to be found which would bring back the mean tropical time and the mean Julian and the mean lunar time of the system, all at once, to the relations of origination, perpetually; in the first place, as no lunar and solar cycle is competent to restore mean lunar time and mean solar in the sense of Julian to the same Julian date of both perpetually but the cycle of 19 years; it is evident that *this* cycle would be wanted for *that* purpose. Secondly, as even the cycle of 19 years could not bring back the same mean lunar time to the same mean Julian for more than 16 cycles of 19 years, 304 mean Julian years, the cycle of 19 years, in the shape of the period of 304 years, would be wanted also. Thirdly, as true mean lunar time, having once ceased to fall on a given Julian term in the first year of one of these cycles, and the first year of one of these periods, could not fall on it again until it had fallen on every term in the Julian year, reckoned backwards, in its turn; we should see that even to restore the *same* lunar term to the *same* Julian, in the *same* year of the Metonic cycle of 19 years, and in the *same* year of the period

of 304 years, as at first, would require a period of  $365.25 \times 304$ , or 111 036 years at least.

And, if we considered that though this period would bring back the same lunar term to the same Julian in the same year of the cycle of 19 years, or of the period of 304 years, and to the same epoch of the noctidiurnal cycle, it would not do so to the same feria of the hebdomadal cycle; we should perceive that, in order to restore a *given* lunar and a *given* solar term, in a *given* year of the cycle of 19 years and period of 304 years, to the same epoch of the noctidiurnal cycle and the same feria of the hebdomadal, must require a period of  $365.25 \times 304 \times 304 \times 7$ , or 2128, that is, 236 284 608 years.

And this being the case, it will follow that to find a period, which should be competent to bring back the *first* day of the mean tropical time of the present system, treated perpetually as mean Julian, to the *feria prima* of the hebdomadal cycle at midnight, in the Julian style of April 25 at midnight, and the *first* day of the mean lunar time of the system to the *feria quinta* at midnight, in the Julian style of April 29 at midnight, in the second year of the cycle of leap-year, and the *first* year of the cycle of 28 years, and the first year of the period of 304 years, all at once perpetually, would require a period made up of that of  $365.25 + 129 \times 3$  612,000 years drawn into that of  $365.25 \times 304 \times 2128$ , or 170 187 507 000  $\times$  236,284 608, or 40 212 688 377 992 256 000 years.

And yet not even a period of such magnitude as this would suffice for all the necessities of the case, if at least the mean sidereal time and the mean anomalistic time of the system were to be taken into account, as well as the mean tropical, the mean lunar, and the mean Julian. It is superfluous however for our purpose that we should enter here on the solution of this new problem. Something was done towards it in my general work, to which I would beg to refer the reader<sup>a</sup>. I have said enough to convince him of the truth of my assertion that, taking all the circumstances of the case into account, we have no alternative but that of accepting the origination of all the motions proper to the present system of things, just where we find it, in strict conformity to every condition prescribed by the Mosaic account of that origination itself, as if for the first time, viz. between April 25 at midn. and May 2 at midn., B.C. 4004, or give up all inquiry after it as useless.

Note E, page 13. In explanation of this allusion to the Phenix Cycle of the Egyptians, see infra ch. ii. sect. iv. pag. 173 sqq.

Note F, page 13. In explanation of this allusion also (to Osiris, Isis, and the Isia,) see infra ch. ii. sect. ii. i. pag. 143 sqq.

Note G, page 21. The researches of modern science into the constitution of the earth, and the history of its inhabitants, during this ante-Mosaic period of its existence, have brought to light two classes of phenomena,

<sup>a</sup> Fasti, iv. 144 sqq. 570-557. Cf. iii. 138-140.

totally distinct from and opposed to each other—one of them, evidently such as could be referrible only to some Principle of action which aimed *ex proposito* at the good of its proper subject-matter, the other, one which never could have had any end in view but the evil of every thing subject to it; one of them a Principle of order and harmony, the other one of disorder and discord; one of them conservative in its tendencies and operations perpetually, the other destructive; one of them, in short, a Principle of Life, on the largest scale, the other of Death, equally general and indiscriminate within its proper sphere of action. To refer such different effects as these to one and the same cause *ab extra*, would be as contrary to the intimations of Scripture, and the light which it has thrown on the true origin and source of each, as to the reason of things and to common sense.

If the physical history of our own earth, for the whole of the period of its existence, embraced by the discoveries of Geology, has been given, however summarily and briefly, any where in Scripture, it is probably in Romans viii. 18—22: *Λογίζομαι γὰρ ὅτι οὐκ ἄξια τὰ παθήματα τοῦ νῦν καιροῦ πρὸς τὴν μέλλουσαν δόξαν ἀποκαλυφθῆναι εἰς ἡμᾶς· ἡ γὰρ ἀποκαταδοκία τῆς κτίσεως τὴν ἀποκάλυψιν τῶν νύων τοῦ Θεοῦ ἀπεκδέχεται. τῇ γὰρ ματαιότητι ἡ κτίσις ὑπετάγη, (οὐχ ἐκούσα, ἀλλὰ διὰ τὸν ὑποτάξαντα,) ἐπ' ἐλπίδι ὅτι καὶ αὕτη ἡ κτίσις ἐλευθερωθήσεται ἀπὸ τῆς δουλείας τῆς φθορᾶς εἰς τὴν ἐλευθερίαν τῆς δόξης τῶν τέκνων τοῦ Θεοῦ· οἶδαμεν γὰρ ὅτι πάντα ἡ κτίσις συστενάζει καὶ συνωδίνει ἄχρι τοῦ νῦν. οὐ μόνον δέ, ἀλλὰ καὶ αὐτοί, κ', τ.λ.: the meaning of which may be represented in the words of the authorized version, somewhat modified, as follows: "For I reckon that the sufferings of the season which now *is* are not worth *taking into account*, in comparison of the glory about to be revealed in reference to us. For the longing expectation of the creation is earnestly awaiting the revelation of the sons of God. For the creation hath been subjected to the Principle of vanity, (not willing to *have been so*, but because of him who hath subjected it,) in hope that the creation itself shall be freed from the slavery of destruction into the freedom of glory of the children of God. For we know that all the creation is groaning together and travailing together up to the time *that now is*. And not only so, but we ourselves," &c.*

From this description we learn that, for the whole of the interval in question, the *positive* law of the relations of that, which is here called *ἡ κτίσις*, (the creation, in the limited sense of our own world,) to any thing superior to itself, and so far the *normal* state of its existence, has been that of an absolute subjection, through the will and appointment of its own Creator, to what is here called *ἡ ματαιότης*—and, (as necessarily implied in such a subjection,) that of a slavery of destruction or destructiveness; a slavery, (the consequence of such a subjection,) both in its tendencies from the first, and in its effects, ever after, destructive of the essence, injurious to the being and wellbeing, of the subject itself.

The key to the right understanding of this remarkable passage, in my opinion, is to be found only in the revelations of Scripture on another mysterious topic, the relations of the invisible to the visible world; and

more especially those of a part, and possibly a principal part, of the angels in general, to this earth of ours in particular, before and after their defection from that state of submission and obedience to the will of their common Creator, and consequently of goodness and innocence, in which they were originally created.

It may be collected from Scripture that the material world in general was created for the spiritual in general; and our own earth in particular for this order or class of the angels in particular: and the proprietorship, so to say, the ownership and jurisdiction of our earth having been once made over to them by the Creator both of it and of them, when they were yet in the enjoyment of their original goodness and innocence, it was not resumed by its Creator, nor taken away from them all at once, even in consequence of their defection itself; but for wise and adequate reasons, (connected, no doubt, with the œconomy of the scheme of Redemption,) even after their fall from obedience, and the change in their moral nature entailed thereby, it was still reserved to them, for a certain length of time, as absolutely as before.

The Scripture sense of a *μάταιον* (of that which is called in Hebrew *לִבְבֵל*, or *Hebel*), and especially of τὸ *μάταιον*, or τὰ *μάταια*, κατ' ἐξοχὴν, is that of an *Idol* or *Idols*—that of any of the objects of the religious worship of the Gentiles<sup>r</sup>—that of any created being, however excellent in comparison of other creatures like itself, yet setting up itself not only as independent of, but as superior to, its own Creator, not only in opposition to, but instead of, its own Creator—as the proper object of religious honour and reverence, religious faith and trust.

The abstract idea of this common principle of opposition to and rivalry of the one great First Cause of all things, on the part of some one or other of its own creatures, in my opinion, is that Principle of Vanity (ἡ *ματαιότης*) alluded to in this passage of the Epistle to the Romans. This Principle of Vanity, in its widest and most comprehensive sense, is that of the *Polytheism* of the Gentile world, the *Gods* many and the *Lords* many, recognised every where except among the Jews at first, and the Christians afterwards<sup>s</sup>, in opposition to, and instead of, the *one* true God and the *one* true Lord—the individual distinctions and personalities of which might all be summed up in the general notion of the common *Pseudo-theism* and common *Anti-theism* of the Gentile world in its unconverted state.

The principle of unity however, which pervaded this system of the ancient idolatry, being, after all, the concentration and impersonation of this abstract idea of a common Antitheism in one living exemplar and type of the whole, the Chief of the fallen angels himself, the *SARAN* of Scripture, deriving his name from his essential antipathy to the one true God, subjection to the Principle of vanity, as such, of whatsoever it might be predicable, must ultimately be understood of subjection to this one great *adversary* of God. And it requires no argument to prove that what-

<sup>r</sup> Cf. Deut. xxxii. 21; 1 Kings xvi. 13, 26; 2 Kings xvii. 15; Jer. ii. 5; viii. 19; x. 3, 8, 15; xiv. 22; xvi. 19; li. 18; Acts xiv. 15.

<sup>s</sup> Cf. 1 Cor. viii. 5, 6.



soever the nature, and whatsoever the disposition, of such a Being before his Fall, the fact of his fall itself must have made a very great difference, if not to the physical, yet to the moral, perfections and attributes, even of the greatest and best of the angels, possibly the one Archangel—the appointed link of connection and mediation between the unoriginated source of life and good, and all the creations and dependencies of his bounty and goodness; and almost as much superior to all other created beings as he was himself inferior to the Supreme Creator himself: and that consequently subjection to the Principle of vanity *κατ' ἐξοχήν*, in this sense of subjection to the will and control of this Being—once so great and so good, and now so changed by his defection itself—after his Fall, must be subjection to the Principle of destructiveness.

From the date of this change then in the moral nature and disposition of the angels, who before their defection stood to that part of the material universe, which is to be understood of our own earth, and its proper system, in the relation of masters and rulers, and, even after their defection, were still permitted (for certain purposes, worthy of the wisdom and the beneficence of the Supreme Source of Good himself), within certain prescribed limits, and for a certain preordained time, to retain their jurisdiction over it, (a doctrine clearly taught in Scripture,) it was to be expected *a priori* that two Principles or Powers of Causation should be found perpetually at work, in and upon the subject of their action, our own earth, each as actively and each as extensively as the other—one of them the Principle of Disturbance, the other the Principle of Rectification—one of them the Principle of Destruction, the other the Principle of Conservation—one of them the Principle of Mischief, the other the Principle of Remedy—one of them ever intent on the production of evil in every way and every form, the other not less constantly employed in making evil itself the means of good.

Now howsoever far back into the history of our planet, the researches of Geology may extend, it must be clear, from the nature of its discoveries themselves, that they still fall short, (and very possibly immeasurably short,) of the date of this first transgression and first defection of the spiritual and immaterial creatures of God; and of the consequent change in the moral nature of the angels, without any change in their power—impelling them from that time forward as naturally to seek the evil of every thing, with which they were previously connected in the relation of superior and inferior, as before, the good. Of the opposition and conflict of Principles, such as I have described, from this time forward, Geology has brought proofs in abundance to light, in the physical history of our own earth; but it has never yet even suspected the opposition and dualism of the Principles of causation also, to which they must have been due respectively, much less thought of distinguishing between them, and referring each to its proper author and source. And in consequence of this oversight, in reasoning upon the phenomena thus brought to light, Geologists, unwittingly perhaps and unconsciously, have nevertheless fallen into the very grave and serious mistake of ascribing to God the proper acts and func-

tions of his great adversary, and treating physical evil, pain and suffering, of every kind, as if it was as compatible with the Divine nature and perfections, and as capable of being proposed on its own account as the end and aim of the Divine plans and operations, as the contrary.

Note H, page 23. It may be objected to the above coincidences, that they hold good in each of these cases only by mean motion, and that, the mean motion of my Tables. But with respect to the distinction of mean and true motions in general, as I have more than once had occasion to observe<sup>t</sup>, at the absolute epoch of *all* motion, there could have been no difference between *mean* and *true*; and both being assumed to have set out from this epoch together, at no period of their subsequent decursus in conjunction, could there be any material difference between the mean motion, and the true, of the *same* kind respectively.

In illustration of this relation between the mean motions of the Tables and the true, even after this epoch of April 25, B. C. 4004—let us compare, i. the mean longitude of April 25, old style, at mean midnight, for the meridian of Greenwich, at any epoch of the present day, (for instance, A. D. 1801,) according to our own Tables, and according to Delambre's—

i. By the Tables we have the mean longitude					
of April 25 at mean midnight A. D. 1801,					
for the meridian in question <sup>u</sup>	..	..	44	25	53.448
ii. By Delambre's Tables	..	..	44	21	5.82
			Difference	4	47.63

And this, as I have shewn<sup>v</sup>, is simply the difference of the mean motion of the Tables, and the mean motion of Delambre, in 5804 years, from April 25, B. C. 4004, to April 25, A. D. 1801: and that this difference, for the same meridian, (that of Jerusalem,) was nothing, April 25, 0 h. 0 m. 21.6 sec., B. C. 4004—has also been shewn<sup>x</sup>.

ii. Let us compare the mean and the true longitude of the intersection of the arc of conjunction of Beta and Zeta Tauri, with the ecliptic, at mean noon May 30, old style, A. D. 1801.

i. By the Tables, we have the mean longitude					
of this point, at the epoch in					
question <sup>y</sup>	..	..	..	80	43 34.6
ii. By the calculation of Prof. Challis, we					
have the true, at the same	..	..	81	21	59.8
			Difference	38	25.2

iii. Let us compare the mean and the true longitude of the solar apogee, Jan. 1 mean noon, new style, for the meridian of Greenwich, A. D. 1801, according to the Tables, and according to Bessel, respectively<sup>z</sup>:

<sup>t</sup> Cf. Fasti, ii. 126, 135, 136.    <sup>u</sup> Cf. Origg. Kal. Ital. Prelim. Add. cix, cx.  
<sup>v</sup> Ibid. cx.    <sup>x</sup> Fasti, iv. 515.    <sup>y</sup> Ibid. iii. 263, 264.    <sup>z</sup> Introduction, 203, 204

i. According to Bessel, we have the true	°	'	"
longitude .. .. .	99	31	9.91
ii. According to the Tables, we have the			
mean .. .. .	99	31	4.66
Difference in 5804 years			5.25.

Note I, page 45. Among other parallel instances of the same idiom of inspired history might be reckoned the transition, Dan. xi. 36, from Antiochus Epiphanes cir. B. C. 165, to the Antichrist of the end—and the transition in the Prophecy on the Mount, Matt. xxiv. 29, Mark xiii. 24, Luke xxi. 25, from the consummation of the judgments on Jerusalem to the end of the world, and the second Advent of our Lord himself. We might mention also the historical notice, at the close of the Gospel of St. Mark, xvi. 19, 20, of the going forth of the apostles, as if in execution of the command, Mark xvi. 15–18, to preach the Gospel in all the world, immediately after the Ascension—though in reality the first going forth of the apostles, on their evangelical mission to all the world, was at least fifteen years later<sup>a</sup>. We might mention also Luke ii. 39—where the retirement of the Holy Family to Nazareth—though really after the return from Egypt—is represented apparently as if continuous on the Presentation in the Temple, a year and upwards previously. In like manner, we might mention Matt. xix. 1, 2, and Mark x. 1, in each of which the passage from Judæa into Peræa, an incident in the last circuit of our Saviour, and probably not many days earlier than his arrival at Jerusalem, before the last Passover, is represented as if it followed directly on the return to Capernaum, Matt. xvii. 24, Mark ix. 33, six months at least before.

Note K, page 51. The interposition of this year of Tohu and Bohu, between the Mosaic creation and any preexisting state of things on the earth, is equally fatal to the hypothesis of a Præadamite race of men as connected in any way with those which exist at present on the same earth. This hypothesis has often been broached; and recently it has been supposed to have derived unexpected confirmation from the discovery of Flints, as they are called, (stones, rudely shaped for cutting, as if by the human hand,) embedded in the drift, or gravel, of what might once have been the beds of rivers, many feet below the surface of the ground at present. It is too early indeed to assume that even these Flints are, after all, any thing but natural productions of a certain kind, (Belemnites,) or that the deposits in which they are found are really older than the Mosaic creation. The opinions of Geologists themselves are still divided on each of these points. But, granting the advocates of the Præadamite theory as much as we have conceded to those of the Migration of Species—granting that these flints may have been (or, if they will, must have been) the work of some kind of intelligence and power *ab extra*—granting even that

<sup>a</sup> See my *Dissertations on the Principles and Arrangement of an Harmony*, vol. i. 144–152.

they must have been the productions of the human hand—still, we may demand, Of what use are these concessions after all, in accounting for the origin of the present race or races of human beings on the earth? What are these Præadamite men to us, or we to them, while the gulf of Tohu and Bohu always has been, and still is, fixed between us?

Note L, page 59. With respect to one of these terms, *im*, the *sea*, Gesenius shewed his good sense when he observed upon it, “That a derivation of it was scarcely to be sought”—for it is one of those terms which in any language can hardly have had an etymon older than themselves. And yet, very inconsistently, he went on to remark that possibly notwithstanding it might have been derived from the idea of the *boiling* or *foaming* of the sea, the words for which in the Hebrew resemble that of *im* in orthography and sound. But to derive the name of the sea in any language from the boiling or foaming of the sea, would be an ὕστερον πρότερον—and in this instance, if the Hebrew for the *boiling* or *foaming* of the sea resembles that for *sea*, the inference of common sense from that fact would be just the reverse of that which Gesenius draws from it; viz. that the word for the *boiling* or *foaming* of the *sea* must have been borrowed from the name of the *sea*; not *vice versa*.

With regard to the word for *water*, it occurs *de facto* only in the plural, *mim*, literally *waters*; and it is *mim* all through the first chapter of Genesis<sup>b</sup>. Yet *mim* in the plural necessarily presupposes *mi* in the singular; and Gesenius recognises *mi* as one of the elements in a proper name, 1 Chron. iv. 2, *Aehoumi*, denoting *Brother of water*, i. e. a *neighbour of water*, one who lived *by water*. He himself indeed is disposed to derive even *mi* in the singular from an older form *moua*; an example of which occurs Job ix. 30. And *Mo* or *Moiü*, it must be admitted, was the old Egyptian for *water*, as is proved by the explanation of the name of Moses, (in Greek Μωϋσῆς) Exod. ii. 10<sup>c</sup>; and in the Coptic it is still *moo-ou*. It is more reasonable however to conclude that if the plural of the word in the Hebrew was never any thing but *mim*, the singular never could have been any thing but *mi*. And *mi* being the simple form of the word for *water*, and *im* the simple form of the word for *sea*, and even a *sea* being only a mass or aggregate of the particles or elements of *water*, what would be more natural than to derive the word for *sea* from the word for *water*? and what would be easier than to do so by merely reading *mi* backwards?

Note M, page 61. *Arets* and *Thebel*. i. *Arets*. Gesenius considers this term a *radical* one; and not only underived itself in the Hebrew, but the root of many terms of kindred signification in other languages; and among these it would seem as if he included the English *earth*, the Greek ἔρα, and the Latin *terra*. Our own *earth*, in my opinion, is directly derived from the obsolete verb in our own language, to *ear*, i. e. to *till*, to *plough*—which occurs in the authorized version, Gen. xlv. 6,

<sup>b</sup> 2. 6, 7. 9. 10. 20. 21.

<sup>c</sup> Cf. Fasti, ii. 350 n. iv. 400.



Exod. xxxiv. 21, Deuteron. xxi. 4, 1 Sam. viii. 12, Isaiah xxx. 24. Nor would it be possible to get the Greek *ἔρα* from the Hebrew *arets*, except by casting off the last two letters, and reading the remainder backwards. It would be easy to derive the Greek *ἐρὰ* (ἡ *ἐρὰ*, in the sense of the Hebrew *He-ibeshel*, the dry land) from it, by reading the entire word backwards—*tersa*. The Latin *terra* too might be obtained from it, by dropping the final *s*, and reading the remainder *tera* or *terra*, instead of *aret*.

The senses which Gesenius assigns the term are, i. and properly, that of the *earth*, in its most comprehensive signification; ii. in a more special sense, i. the *earth*, in contradistinction to the *heavens*, in which sense the *earth* and the *heavens* take in the whole of the material universe. ii. The *earth* in the sense of *land*, *continents*, *terra firma*, in contradistinction to *sea* (Gen. i. 28). iii. *Land*, or *country*, *patria*; sometimes *Palestine* in particular—and in the plural, *lands*, *countries*, especially those of the Gentiles. iv. *Land*; *a piece of land*. v. The *ground* (Gen. xxxiii. 3; xxxvii. 10), in which sense the name of the *earth* stands for that of the *surface* of the earth. vi. The *earthy* element, ingredient, or part, of any other substance, as for example the *scoriæ* or *ore* of metals, as in Ps. xii. 6, according to Gesenius' version of that text, "Like silver purified in a workshop from its *earthy* parts"—refined in a furnace, and therefore purified from its earth or dross.

And though this is the last of the senses which he enumerates, and consequently the most restricted, I should be disposed to think that this signification of the *elementary substance* of any thing, comes nearest to the proper sense of the term. It should be considered that, Gen. i. 10, this name of *arets* was first given to that part of the earth which was first left uncovered by the retirement of the waters; and could have been intended at that time only to discriminate the part so left bare, from that which was still submerged as before. And what could have been the appearance of *this* part, on the second day of the Hexæmeron, but that of a naked superficies of solid matter, dry indeed, and no longer fluid, but destitute as yet of its proper clothing, (superinduced on it only on the third day,) herbs and grasses, plants and trees? If so, the proper sense of *arets* in the Hebrew must have been that of ἡ *ἐρὰ* in the Greek, *terra arida*, and nothing more; the simple substratum of that covering of its surface every where, at present, which naturalists call the vegetable kingdom in contradistinction to the animal.

And this view of its proper meaning gives perhaps a peculiar significance to the use of the term, Gen. i. 2, for the proper subject of such an affection as is there denoted by being "without form and void"—and to the language of Jeremiah, iv. 23, "I beheld the earth, and lo! it was without form and void"—as if relapsing into the state in which it was before it became the subject of the Mosaic creation, a bare and naked superficies of solid matter, destitute as yet of all the external signs and tokens of a κόσμος.

In the *ο'* the Hebrew *arets* is nine times rendered by οἰκουμένη, which is

more properly the version of the Hebrew *Thebel*. In general however it is rendered by  $\gamma\eta$ .

ii. *Thebel*. This word, which some Hebrew lexicographers treat as a radical term, like *arets*, Gesenius derives from the conj. Hiphel of the verb  $\text{יָבַל}$  *ibel*,—in its *third* signification, that of to *bring forth*, to *produce*. On this principle, the first and most proper sense of the term should be that of the *fertile* and *productive* part of the earth. The next would naturally be that of the *inhabited* or *inhabitable* part of the earth, ἡ οἰκουμένη in Greek, by which the  $\sigma'$  actually render it 26 times. Gesenius indeed blends *both* these meanings in the *first* sense which he assigns it, that of the *fertile* and *inhabited* earth, that of the *habitable* globe; and in the second which he assigns it, enlarges this meaning of the *inhabited* or *inhabitable part*, to take in the whole of the world; though in strictness, even in such cases as these, the word being still *this* of the *Thebel*, it is only by *synecdoche* that it can denote any thing more than the *inhabited* or the *inhabitable* part of the earth.

Of the first and most proper sense, above alluded to, that of the *fertile* and *productive* part of the earth, we could not possibly appeal to a plainer instance than Ps. l. 12: "If I were hungry, I would not tell thee: for the *Thebel* (the *world*) is mine, and the fulness thereof"—i. e. all the variety of vegetable or animal life, which, if found anywhere on the earth in general, must be on the *Thebel* in particular. Or to Isaiah xxxiv. 1: "Let the *Arets* hear, . . . the *Thebel*, and all things that come forth of it"—the *Thebel* in fact being the only productive part of the earth. Or Isaiah xxiv. 4: "The *Arets* mourneth, . . . the *Thebel* languisheth"—where the verb is one, in the original, which is most applicable to the drooping and dying away of vegetable productions, like those of the *Thebel*. Just as, on the other hand, in illustration of its secondary sense of the *inhabited* or *inhabitable* part of the earth, we might appeal to Nahum i. 5: "The *Arets* is burned up at his presence, yea, the *Thebel*, and all that dwell therein"—as if inhabitants were to be found in no part of the *Arets* but the *Thebel*<sup>d</sup>.

The point however with which I am concerned at present being that of the use and application of this term to designate both a limited part of the antediluvian world, and yet the fertile and productive, the *inhabited* or *inhabitable*, part of the same; this point, I think, will be sufficiently established, if it can be made to appear from the testimony of Scripture that every state of the *Arets* as such has had its corresponding *Thebel* also; and consequently, that along with an antediluvian *Arets*, there must have been an antediluvian *Thebel*.

And this, it appears to me, may be collected from Jeremiah x. 12, or li. 15: "He hath made the *Arets* by his power, and he hath established the *Thebel* by his wisdom:" for these words clearly imply that along with the foundation of an *Arets* by the power of God, the simultaneous constitution of a *Thebel* of that *Arets*, by the wisdom of God (the designation of a peculiar part of it, endued with a peculiar power and capacity, for certain

<sup>d</sup> Cf. Ps. xxiv. 1: xxxiii. 8. lxxxix. 11: xeviii. 7.

wise and beneficent purposes,) always went hand in hand. So again, from 1 Sam. ii. 8: "The pillars of the *Arets* are the Lord's, and he hath set the *Thebel* upon them:" for these words also imply that if the *Arets* was first set upon pillars, which, as deriving their strength and sufficiency from the Lord, must be immoveable, it was in order that the *Thebel* might be set on the *Arets*, in the next place, and be only the more firmly secured and established thereby<sup>e</sup>. So again, Job xxxvii. 11, 12:—in reference to the clouds and their uses, as appointed and directed by the Divine counsels:—"That they may do whatsoever he commandeth them, upon the face of the *Thebel-Aretsch*:" where this compound word of *Thebel-Aretsch* seems to have been purposely invented to convey *this* particular meaning, viz. that with respect to such uses and purposes as those to which the clouds are naturally instrumental, the *Arets* as such was not to be distinguished from the *Thebel*. The intent and use of the clouds is to stimulate and aid the natural fertility of the earth, on which they distil their contents. As the recipient of the rain, and as benefited, or intended to be benefited, by the rain, the *Thebel pro tempore* was the *Arets*, or the *Arets pro tempore* was the *Thebel*.

Now though the above allusions were probably intended of the state of the case in the postdiluvian world, yet that this particular constitution of things, by virtue of which an *Arets* as such, and its proper *Thebel* as such, under all circumstances, must be supposed to have accompanied each other, would be just as true of the state of the case in the antediluvian world, may be inferred from the first verse of the 90th Psalm, which both the Jewish and the Christian Church have been unanimous in attributing to the same author as the Book of Genesis: "LORD! thou hast been our dwellingplace in all generations. Before the mountains were brought forth, or ever thou hadst formed the earth and the world (the *Arets* and the *Thebel*), even from everlasting to everlasting, thou art God!" What is this supposed first birth of the mountains, (the everlasting hills<sup>f</sup>), or this first formation of the *Arets*, but either the first production of the material universe, Gen. i. 1., or the first production of our own world, Gen. i. 2? which is the more probable supposition. On this principle however, seeing that the first formation of an *Arets*, according to the course of things here defined, of necessity entailed the first formation of a *Thebel* too, it would follow that the first formation of the antediluvian *Arets* must have entailed the first formation of an antediluvian *Thebel* also.

These conclusions may be finally confirmed by that remarkable passage in the Book of Proverbs, wherein the Wisdom or Word of God, through whom it pleased the Father, at the time foreordained by his own wise counsels, to create the first world, and all subsequent ones alike, is introduced speaking, ch. viii. 22: "The LORD possessed me in the beginning of his way, before his works of old. 23: I was set up from everlasting, from the beginning, or ever the earth was. 24: When *there were* no depths, I was brought forth; when *there were* no fountains abounding with water.

<sup>e</sup> Cf. Ps. xciii. 1.

<sup>f</sup> Gen. xlix. 26.

25: Before the mountains were settled, before the hills was I brought forth. 26: While as yet he had not made the earth, nor the fields, nor the highest part (the top) of the dust of the *Thebel*. 27: When he prepared the heavens, I was there; when he set a compass on the face of the depth. 28: When he established the clouds above, when he strengthened the fountains of the deep. 29: When he gave to the sea his decree, that the waters should not pass his commandment; when he appointed the foundations of the earth. 30: Then I was by him, as one brought up with him; and I was daily his delight, rejoicing always before him. 31: Rejoicing in the habitable part of his earth, (the *Thebel* of his *Arets*,) and my delights were with the sons of men."

Though the first part of this sublime description may go back beyond Gen. i. 1, even as supposed to extend to the very beginning of the material creation, the latter part, from verse 25 to the end, can go back only to Gen. i. 2, the beginning of our own world. The comparison of Psalm civ., quoted supra §, with this passage, must be decisive that the same spirit which dictated the former dictated the latter also, and both, in reference to the œconomy of our own creation in particular, among the many which might have preceded it.

What then are we to infer from the language of verse 26, "While as yet he had not made the *Arets*, . . . nor the top of the dust of the *Thebel*"—but that our own world also, when it came into being at the epoch of the Mosaic creation, had a *Thebel* as well as an *Arets*, the former of which too, to judge from the terms of this allusion, must have been the highest part of this same *Arets*. And what from the language of verses 30 and 31, "Then I was by him, . . . rejoicing always before him, rejoicing in the *Thebel* of his *Arets*,—and my delights were with the children of men"—except that as this world of ours, from the date of the Mosaic creation, must have had its *Arets*, so that *Arets* must have had its *Thebel*. And this *Thebel* must have been the proper habitation of the sons of men; in which, during the still continuing state of innocence in which they were created, (a state, be it remembered, of three years' duration,) it pleased their Creator himself, the Wisdom and Word of God, to hold unreserved intercourse and communion with them.

Note N, page 66. *Aouph*, *Behemeh*, *Heith-heshedeh*, *Remesh*. i. *Aouph*. This word is treated by Gesenius as a substantive, derived from a verb, *Aouph* also, in the sense of to cover in general, but with *wings* and *feathers* in particular, for which he quotes Isaiah, xxxi. 5. And hence he infers that its primary sense must have been that of a *wing*, and its secondary one, that of *birds*, *fowls*, collectively.

That it has however the sense of *bird* more frequently than that of any thing else cannot be questioned. I cannot help thinking Gesenius would have done better to treat the substantive in this instance as the root, and the verb as the derivative. It appears to me an ἵστέρον πρότερον to speak



of the instincts or acts of birds as if they were prior to and independent of birds themselves. In the nature of things there must have been birds, endowed with wings and feathers, and disposed to make a certain use of them in behalf of their young, before birds could have been seen any where covering their young ones with their wings and feathers. It is needless to add, that birds were brought into being, and called by their Creator by this name of *Aouph*, as what they were at that time in themselves, not from what they were destined to be in reference to their young.

I should infer, from the resemblance of the Hebrew verb *Aouph* to the Greek *ἄω* or *ἄημι*, and from the mode in which the substantive term *Aouph* is so frequently rendered in the *ο', τὸ περτεινὸν*, (68 times,) that its first and proper meaning must have been that of a creature, able to raise and support itself in the air,—able to float and move about in the air,—and of course endowed with an organism adapted to that purpose. And this view of its first and proper meaning seems to me to be much confirmed by the peculiar idiom in the 21st verse of the chapter, of *Aouph-Canouph*, predicated of the same subject, the particular productions of the fourth day, in the shape of the inhabitants of the air at least; for this may be understood to imply that there might be *Aouph* without *Canouphim*, creatures able to rise and float in the air, as much as birds, yet not endowed like birds with wings or feathers.

It is certain however, in any case, that neither according to the idiom of Scripture, nor the *usus loquendi* among the Jews, could *Aouph* denote insect in Hebrew, any more than *ῥπυς* in Greek, or *avis* in Latin, or *bird* in English. There is no term in the Hebrew analogous to *ἐντομον* in Greek, or *insecta* in Latin; none at least in the Hebrew of the Bible. Leviticus xi. 20, 21. 23, and Deuteronomy xiv. 19, where the distinctions of clean and unclean, among insects as much as among animals, are laid down,—the phrase made use of to express them collectively is *Sherets he Aouph*—and *Sherets* is explained by Gesenius<sup>h</sup>, to *creep*, to *crawl*, and is rendered by the *ο'* once by *ἐξέρπω*, once by *κινέω*, and five times by *ῥρω*. On this principle, *Sherets he Aouph* must have denoted such creatures as, besides legs to creep or crawl with, had wings also to fly with; and such must be the proper idiom and style of Scripture for the whole of the insect world. It may be objected indeed that birds too have feet as well as wings. But it is to be observed, that the verb *Sherets* is never applied to the proper motion of birds with *their* feet, or to that of any creature, endowed with feet, which could be said to move itself on its feet by *striding* or *hopping*. Its proper sense and application is to the motions of such creatures as *crawl* rather than *creep*, like reptiles, or *creep* rather than *walk* or *stride*, among animals. *Sherets* in short would denote the larvæ of all insects, and their characteristic motions; *Sherets he Aouph*, the same larvæ endowed with wings and able to fly; that is, the insect.

<sup>h</sup> Gen. vii. 21. Levit. xi. 29 41-43.

ii. *Behemeh*. This word, *Behemeh* in the singular, *Behemoth* in the plural, according to Gesenius, is derived from an obsolete root *Bem*, to *shut*, especially the *mouth*, and therefore to be *mute*, to be *dumb*. And as so derived, it must be equally applicable to every kind of animal, as alike distinguished by this want of the faculty of speech.

The *ó* have rendered it fifteen times by τετράπους, a quadruped, and twelve times by θηρίον, a wild animal, in Greek; but in a great majority of instances by κτήνος. And, according to Gesenius, besides the generic sense just explained, of every dumb creature, its specific senses in the Hebrew are i. and chiefly, that of κτήνος in Greek, *pecus* in Latin, *cattle* in English,—domestic animals of every kind. ii. That description of domestic animals, which in our language are called beasts of burden, in Greek ἐποζύγια, and in Latin *jumenta*—horses, asses, oxen, camels, &c. iii. Beasts of the field as such, wild animals in contradistinction to tame, whatsoever their dispositions and habits in other respects.

It is in the first and the second of these senses only that the word is used in the Mosaic account of the creation, and of the work of the sixth day in particular.

iii. *Heith-heshedeh*. *Heieh*, according to Gesenius, is derived from the verb in Hebrew which denotes to *live*, and properly to *breathe*. As so derived, *virtute termini*, it must include in its comprehension every thing in which there is the breath of life—all animals at least, as living by breathing. The *ó* render it fourteen times by ζῶον, (which comes very near its literal meaning,) sixty-two times by θηρίον, once by κτήνος (Lev. xi. 2) and once by ἐρπετόν, Gen. i. 28. Under the generic sense of an animal or animated creature, denoted by this term, Gesenius distinguishes the specific sense i. Of beasts of all kinds, and water animals as much as land. ii. Quadrupeds, as opposed to bipeds. iii. Wild animals, as opposed to Behemoth or tame, including those which are beasts of prey, as well as those which are not.

It is to be observed however, that in this particular sense of a wild animal, which is also a beast of prey, the word is commonly accompanied with an epithet expressive of its nature, as an *evil* beast<sup>l</sup>, a *ravenous* beast<sup>k</sup>, a *noisome* beast<sup>l</sup>; from which, in my opinion, it is a legitimate inference that even the Hebrew language itself at first had no word for a beast of prey as such, and therefore (if the Hebrew was the antediluvian language, of which more hereafter) in the antediluvian world there could not yet have been such a thing as a beast of prey: and consequently this word, as used in the account of the Mosaic creation, and of the work of the sixth day, could have been intended of none but simply *wild* animals in contradistinction to *tame*, beasts of the *field* in opposition to beasts of the *homestead*. It is no objection that in later allusions, as Hosea xiii. 8, Job xxxix. 15, the style of *beasts of the field* is applied also to *beasts of prey*. For *beasts of prey* are *beasts of the field* too, just as much as animals which are not beasts of prey, yet cannot be domesticated, nor

<sup>l</sup> Gen. xxxvii. 20. 33. Levit. xxvi. 6.

<sup>k</sup> Isaiah xxxv. 9.

<sup>l</sup> Ezek. xiv. 15. 21. xxxiv. 25.

brought up and live with man. The *Heith-heshedeh* of the Mosaic creation is an irreclaimable animal of this kind, but not one inimical or dangerous to man.

iv. *Remesh*.—*Remesh* the verb is rendered in the *ó* six times by *ἔρω*, and seven times by *κινέω*; and *remesh* the substantive seventeen times by *ἔρπετόν*. According to Gesenius the verb denoted both the motion of the smaller animals, which have four feet or more, such as mice, lizards, crabs, &c. (which would be properly expressed by creeping), and that of such as have no feet, and are consequently obliged to trail themselves along on the ground, as serpents, worms, &c. The substantive, as so derived, denoted reptiles, properly so called—all living creatures whose proper motion is by creeping or crawling. And besides these Gesenius would include under it all such creatures as trail or drag themselves along on the ground. And it must be admitted that, in subsequent instances of the use of this term in Scripture, it did include animals of this description; and also that *Remes* or *Ermes* in this sense, with the *Æolic* digamma prefixed to it, may have been the original of the Latin *vermis*, and even of the English *worm*. Yet it may be doubtful, (as we shall see by and by,) whether, as making up, along with *Behemoth* and *Heith-heshedeh*, the whole of the antediluvian zoology, and as classed with, and yet opposed to them, Gen. i. 26. 28. 30 : vi. 7. 20 : vii. 14-23—it is to be understood of any description of animal, without feet. Gen. ix. 3 (cf. Ezek. xxxviii. 20), it is so used as to include *all* land animals : so that there must have been something in common to these, and the other two, more specific than the nature of animals merely, something in common in their motions, and in their organs of motion, respectively—as there would be between the smaller animals of every kind, which had feet, and the larger.

Note O, page 68. From the first part of the sentence, pronounced on the serpent, Gen. iii. 14, “Because thou hast done this, thou *art* cursed above all cattle, (*Behemoth*), and above every beast of the field,” (*Heith-heshedeh*), it seems to be a natural inference that up to the time of this offence, it was to be classed, in some sense or other, with *Behemoth*, and *Heith-heshedeh*, not with *Remesh*—and from the second part, “Upon thy belly shalt thou go, and dust shalt thou eat, all the days of thy life”—it seems to be still more naturally inferrible, that, up to this period of its existence it must have had feet to walk upon—it could not have been formed originally for no other kind of motion, than that of trailing along the ground. If so, its feet must have been taken off by this very sentence. The serpent must first have begun to go upon its belly, as it does at present, only from the day of the Temptation and Fall of man.

Comparative anatomy appears to confirm this inference, by bringing to light the rudiments of feet, as still a part of the organization of the serpent. The rudiments of feet are still discoverable under the skin of the serpent—and that seems to be a natural argument that it must have once had feet.

It will follow further from this inference, that, up to the time when a

change was made in the organic structure and habits of life of this one of the creatures of God, and as a specific punishment for a specific offence, there could have been no creature as yet ordained to the same mode of life, and organised accordingly, by the Creator himself. There could have been no creature which *trailed*, in opposition to those which went on feet, up to the date of the Temptation and Fall, nor any after it, in the antediluvian world at least, but the serpent. If so, this fact as I hinted supra<sup>m</sup>, is very important to the proper sense of the name of the third of the classes or orders of the antediluvian zoology, *Remesh*, in contradistinction to *Behemoth* and *Heith-heshedeh*. It must now appear it could have included nothing which *trailed*, at first at least. It must have been restricted, *virtute termini*, to such creatures as *crept* or *crawled*, even as distinct from those which *walked* or *ran*.

Note P, page 69. A change in the temperature of the air may or may not have been a consequence of the Fall, and on that point every one is free to have his own opinion. It cannot however be inferred simply from Gen. iii. 21, the provision of clothing for the first human Pair, by their Creator, though immediately after the Fall: for that might have been done in condescension merely to the consciousness of nakedness, and to the sense of shame, awakened in them by the first act of transgression itself<sup>n</sup>.

Note Q, page 72. Of that class of the antediluvian zoology, which Scripture has called *Douph*, the only extant testimony to the existence of any particular species before the Flood, is Gen. viii. 7, 8-12. אֶרֶב *Areb*, and יוֹנָה, *Iouneh*. The latter of these, it is generally agreed, must have been the same bird which is designated by the same name in the later books of Scripture, and in the English Bible, wherever it occurs, is rendered *Dove*. We may take it for granted then that the well known bird, so called in our language, is meant in this first allusion to it in Scripture; though as to its name, in the Hebrew, and its etymon, Gesenius declines to give any opinion about it: and the Dove being a seminivorous or granivorous bird even at present, it may well be presumed it must have lived on vegetable food from the first.

As to the bird, mentioned along with it, as one of the inmates of the ark also, and called *Areb* in the Hebrew, it is rendered in the English Bible both here, and wheresoever else it occurs, as the name, or supposed name, of a bird, by *Raven*; and Gesenius also is of opinion that as the name of a bird of some kind in the Hebrew, it must have been that of *Corvus* in Latin, *Kópaξ* in Greek, or *Raven* in English—though he declines to assign any etymon of this too. He admits however that the use of this term in the Hebrew is not restricted to the Raven, but takes in kindred species of birds, as the Crow in English, (*Kopónη* more properly than *Kópaξ* in Greek, *Cornix* in Latin,) the Rook, the Daw<sup>o</sup>, &c. And from

<sup>m</sup> Page 258.

<sup>n</sup> Gen. iii. 7. 10, 11.

<sup>o</sup> Cf. Levit. xi. 25. Deut. xiv. 14.



the supposed consecration of the bird called *Kópaξ* in Greek, (whether the Raven or the Crow,) to Apollo, among the gods of classical mythology in particular P, and as his prophet or oracle too, it may be presumed that this incident in the year of the Flood, relating to Noah and the *Arēb*, must have been handed down traditionally as something which passed between him and the *Kópaξ* in Greek, either the *Raven* or the *Crow*.

With respect then to the habits and diet of this class of birds at present, though it must be admitted that they prefer animal food, and some of them dead animal food, none of them has the peculiar organism of birds of prey, the beak, and the talons. And as to their food itself, the true description of this family of birds is that of omnivorous—eaters of every thing which comes in their way. There is no antecedent improbability therefore that, from the creation to the flood, even these subsisted on a vegetable diet, and that the change in their instincts, which makes them prefer animal food at present, dates only from the fresh beginning of things after the Deluge.

Note R, page 84. The calculations in the *Prolegomena*, here referred to, as was there explained, were all set back 12 hours, under an idea of the necessity of that correction, which I have since seen reason to abandon. These 12 hours being restored, the new moon of April B. C. 1560 comes out April 9 at 6 A. M., instead of April 8 at 6 P. M.

Note S, page 93. In addition to the other proofs of this date, collected in my former works, the reader should by all means be made aware of one more, brought to light by the history of the Lustral Cycle, the Census, and the Censorship, of Roman antiquity. The powers of the Censorship at the period of the Nativity were concentrated in the person of Augustus; and it has been shewn from the decursus of the Lustral Cycle, down to this period in its history, that the order, which enjoined the census of the empire, having been issued critically at the beginning of the current cycle, the autumnal quarter of B. C. 5—the time when it would naturally be beginning to be executed in the provinces would be the spring of the next year, B. C. 4.

Note T, page 104. I was once of opinion that if the final end of the addition of 12 hours to the noctidiurnal cycle in this first instance was simply to lengthen the morning half of the cycle; no epoch could have been so proper for it as the middle point of the period of 24 hours, reckoned from 6 P. M. mean time to 6 P. M. mean time perpetually; which, of course, would have been 6 A. M. mean time for the proper meridian, exactly. But further reflection, and the difficulties (of another kind) in which we should be involved by such an hypothesis, have satisfied me

p Cf. *Poetæ Min.* i. Hesiod. *Fragm.* xxix. Pindar, *Pythia*, iii. 44–54, and *Schol.* in loc. and ad ver. 41. Ovid, *Fasti*, ii. 243–246. Hyginus, *Poët. Astron.* ii. xl: *Fabulæ*, ccii. q Cf. *infra*, chap. i. sect. xii. p. 156 sqq. r Origg. *Kal. Ital.* ii. 291, 292.

that this could not be assumed as a necessary condition of the case; and that every end, contemplated by the miracle, as far as we can judge of it, would be answered, whether the diurnal rotation was suspended at the middle point of the noctidiurnal cycle, reckoned from May 30 at 6 P.M. mean time for the proper meridian, to May 31 at 6 P.M. mean time for the same—or at the middle point of the same cycle, reckoned from sunset May 30 to sunset May 31—which, reckoned in Kairic time, would of course be the moment of sunrise May 31: and especially, if it so happened in this particular instance that the moment of sunrise, the beginning of the morning half of the cycle, reckoned by Kairic time, was coinciding as nearly as possible with an integral division of the period of 24 hours in mean time, like 5 A.M. mean time. And that was actually the case. Sunrise, May 31, B. C. 1520, for the latitude of Jerusalem, is found by calculation <sup>s</sup>—

	h.	m.	s.	
May 31	5	10	8.7	apparent time
Equation of time	—	11	24.1	
May 31	4	58	44.6	mean time.

And this might very probably be assumed May 31 at 5 A.M. mean time exactly.

Now that the actual time of the miracle must have been the beginning of the morning half of the noctidiurnal cycle, dated from the first appearance of the sun, may be inferred from Josh. x. 13, “So the sun stood still in the midst of heaven, (*the heavens*, the two *hemispheres*, each of them an *heaven*,) and hasted not to go down (*to go on*) for a whole day” (*a perfect day*;) for this clearly implies that the sun, at this time, was on the horizon, and consequently just rising. I argued before <sup>t</sup>, and I still contend, that בִּהְיָ הַשֶּׁמֶשׁ *Beetsi hessimim*, the phrase employed in this instance, never could have been intended, never could have been used with propriety, of any thing but the great circle, visible to the senses, which divides the heavens every where into two equal parts—the horizontal circle. The meridian circle, which the authorized version, (to judge from its language, *In the midst of heaven*,) seems to have thought intended by this allusion, in the first place, is not a visible or sensible circle; in the next place, does not divide the heavens into two halves, but simply bisects one of these halves, the upper hemisphere; and if it divides the heavens themselves thereby, it is into quadrants, not into halves. If the sun then, at this time, was in the *midst* of the heavens, (between the upper and the lower hemispheres,) i. e. on the line of bisection of the entire circumference of the heavens,—on the line of separation of the upper and the lower hemispheres—it must have been critically on the horizon in the east—and consequently, if that was the moment of the stoppage of the diurnal rotation, the diurnal rotation must have been stopped critically at sunrise in Kairic time, and 5 A.M. in mean time.

<sup>s</sup> Fasti, iv. 588, 597, 598

<sup>t</sup> Ibid. i. 271.

And here the situation of the ancient Gibeon would require to be taken into account. The modern name of Gibeon is Eljib; and I extracted Dr. Robinson's account of the modern Eljib, in illustration of the site of the ancient Gibeon, from the first edition of his *Geography of Palestine*, on the former occasion<sup>v</sup>. It appeared from it that Gibeon stood in the midst of a level plain, on an oblong, isolated ridge, the direction of which was east and west, or rather, at one of its extremities, east by north, and at the other, west by south. And this being the case, allowance being made for the sun's azimuth at the time, as we shall see hereafter, it was very possible that the rays of the sun, as first appearing on the morning of this day, May 31, B.C. 1520, might be levelled directly on Gibeon—and so explain the language of Joshua, "Sun be thou dumb *upon* Gibeon."

It appears from the same account that the high road from the west of Judæa to Jerusalem passes at present on the north side of the ridge on which Eljib is situated; and it appears from Eusebius and Jerome<sup>x</sup>, that it did so in their time too. It appears also from Jerome<sup>y</sup>, that a traveller, coming by this road from Nicopolis to Jerusalem, could see both Ajalon (the modern name of which is *Yalon*) and Gibeon on his right. We may reasonably therefore suppose that it was by this high road on the north, or some similar one, that the besieging army had approached, and laid siege, to Gibeon; and by this also, that Joshua would come upon them from Gilgal for the relief of the place. In this plain therefore, on the north, the battle would most probably be fought under the walls of Gibeon. And from the same locality, as soon as the contest was over, and nothing remained but the pursuit, Joshua must have addressed the sun, just rising at the time above the horizon in the east, and the moon, just sinking at the same time into the horizon in the west.

With respect indeed to the precise time of the miracle on the first occasion, it would have made no difference, for any thing which we can discover to the contrary, at what time on this day, May 31, B.C. 1520, the Diurnal Rotation might have been stopped—provided it was only twelve hours before the point of 6 P.M. mean time for the proper meridian. The natural termination of the mean noctidiurnal cycle for the primary meridian, according to the primitive rule, having been 6 P.M. mean time perpetually; no addition to the length of a given cycle, it was to be expected *a priori*, would be made at any period in its decursus, reckoned from which it would end later than 6 P.M. mean time. On the first occasion the æconomy of the miracle was such that the additional twelve hours ended one hour of mean time before 6 P.M. m. t. On the second it was such that, though the addition was made precisely at 6 P.M., the twelve hours ended at 6 P.M. too, because the reversal of the heavens from 6 P.M. m. t. to 6 A.M. m. t., on that occasion, was instantaneous.

<sup>v</sup> Fasti, iv. 591. Cf. Second Edition, i. 452 sqq.

<sup>x</sup> Robinson, i. 452, 453.

<sup>y</sup> Ibid. i. 456.

Note V, page 106. Of this idiom of Scripture in particular, or of the Jews in general, in the case of an integral number and a fraction, small in comparison of the integral number, whereby the whole number was put for the whole and the fraction, and especially in merely general references to both at once—see the examples collected in the *Dissertations on the Principles and Arrangement of an Harmony*<sup>z</sup>; and, in fact, the whole of the explanation of the Prophecy of the 70 weeks, there given<sup>a</sup>—that Prophecy itself, (nominally one of 70 weeks, in reality one of  $70\frac{1}{2}$ ;) being the best instance of the idiom in question, to which we could appeal.

Note X, page 108. Ferguson (*Astronomy*, edited by Brewster, 1811, vol. i. 63. § 118.) has the following observation :

“If the earth turned round its axis in 84 m. 43 sec., the centrifugal force would be equal to the power of gravity at the equator; and all bodies there would entirely lose their weight. If the earth revolved quicker, they would all fly off, and leave it.” But what is an increase of the actual rate of the circumrotation from 24 hours to 1 h. 24 m. 43 sec. itself, in comparison of one at the rate of half an entire revolution in less than an instant of time?

The question, What would be the consequence of a stoppage of the diurnal rotation? was once put by myself to one of the most eminent of modern astronomers. The following is an extract from his reply to it.

“A suspension of the laws of motion, such as appears to be under your consideration, is to us (*the astronomers*) entirely inconceivable. I do not mean that we cannot form a metaphysical conception of such a thing; but I mean that the consequences, without an infinity of miracles of different kinds, and some of a continued nature in regard of time, are so numerous, and so destructive of the existing order of things, that any other explanation of the Scripture difficulty is to be sought in preference. For instance, the earth is suddenly stopped in its rotation—are the animals &c. stopped at the same time, or are they instantly projected (with reference to the earth) with a velocity as great as that of a cannon ball? Suppose the former—that requires only an addition to the instantaneous miracle. But what is to supply the place of the centrifugal force, now destroyed? The water from the equator would immediately rush to the poles; and if the interior of the earth be something like fluid lava, (as we have very strong reason to believe,) a burst of lava would crack the solid crust at the equator, and would rush to the poles. These effects could be prevented only by a continued miracle; that is, by the suspension of the laws of matter during a long time. . . . Mechanics is a continued sequence of causes and effects, and one link in the chain cannot be broken without deranging or destroying all the rest.”

The misapprehension involved in this reasoning is very apparent; viz. That the same Power which was adequate to the production of such an effect as this, of the instant suspension of the diurnal rotation, either could

<sup>z</sup> ii. 6 sqq.

<sup>a</sup> ii. 1-81. iv. 117-414.



not, or would not, prevent the consequences of that suspension. These consequences might be regarded as possible, could we conceive the possibility also of such a thing as an instantaneous stoppage of the motion of the earth about its axis, as an act of blind Power *ab extra*, and nothing more. They are purely imaginary of the process and effects of an anomaly, however extraordinary, in which the agent was Infinite Power, guided and directed by Infinite Wisdom. Such objections as these ought to shake no one's confidence in the fact of these miracles, the evidence of which remains just the same, just as strong as ever. They prove only that there was something in the æconomy of both, and especially in that of the second, over and above the apparent and sensible effect, infinitely more calculated to excite our wonder and astonishment than the sensible effect itself. They should have no effect therefore upon us but that of exalting our ideas of the Power, the Wisdom, the Foresight, the Goodness of the great Creator and Preserver of all things; and, in a special manner, our conviction of the absolute dependence of all the laws of matter, and laws of motion, and of the whole of that succession of antecedents and consequents, which we call the course of nature—not only for its first originaton, but for its constant continuance in the same way, every moment of its duration, simply and solely on the will of God.

Note Y, page 135. It is far from improbable that, if the words in question had been rendered literally, "Sun! be thou dumb upon Gibeon!" we should never have heard of the *ignorance* or *simplicity* of Scripture; as if the sacred Penmen really believed the sun was capable of standing still. The most captiously disposed sceptic could scarcely have fastened such an inference on the actual terms of the address—"Sun, be thou dumb," and not "Sun, stand thou still."

It is no objection that in verse 13, directly after, summing up the effect of the words, the moon is said to *have stayed*—since even there, just before, the sun, as coupled with the moon in the same result, is said not to have stayed, but to have been dumb—implying that the staying, next supposed, in the case of the moon, could have been nothing different from this being dumb in the case of the sun. For the same reason, in the final allusion to the miracle as principally affecting the sun, in the sequel of this same verse<sup>b</sup>, even the sun might now be said to have *stood still*, and to have hasted not to *go on* for a perfect day; for there could be no danger of mistaking this standing still or going on, now predicated of the sun, for any thing different from that being dumb, or ceasing to be dumb, predicated or implied of it before.

With respect to any subsequent reference to the miracle of this day, and the terms in which it may be found alluded to, nothing is discoverable in the later books of Scripture, which would *prima facie* imply such a reference, except Is. xxviii. 21, and Habak. iii. 11. With regard to the former, as the allusion to Gibeon is associated there with another display of the

<sup>b</sup> x. 13.

Divine Power in behalf of its own people, the scene of which was Mount Perazim—and that too of earlier date than this of Gibeon, it is clear, in my opinion, that the occasion referred to, Is. xxviii. 21, was not the battle at Gibeon, and the miracle of this day, May 31, B. C. 1520, but a later incident, the scene of which was the valley of Gibeon also, recorded historically, 1 Chron. xiv. 16 c, in the reign of David.

With regard to the latter, if it is rightly rendered in the English Bible, and rightly supposed to refer to this day, then the language of the reference would seem to be open to the cavil of which we are speaking—as if on the authority of this passage, it was to be supposed the sun and the moon were both alike endowed with a motion of their own, which on this day and for this occasion was suspended. In my opinion, however, it is a total misapprehension of the reference of this text, to suppose it to contain any allusion to the miracle of the sun at all. The words should not be rendered, “The sun *and* moon stood still *in* their habitation,” but “Sun-moon was the pillar of his habitation.” There is nothing in the original to answer to the *and* between *sun* and *moon*, nor to the *in* between *stood still* and *their habitation*. The context of the passage is competent to satisfy any one, who will consider it carefully, that what the prophet was intending to describe in this sublime hymn, was chiefly the circumstances of the march of the people of God, when they set out from Mount Sinai, in the second year after the Exodus, on their way to the borders of Canaan for the first time, preceded by the visible symbol of the presence of the Deity, as their Leader, in the Pillar of the cloud<sup>d</sup>: and it is *this* Pillar, and the phenomena connected with it, which are the subjects of the allusion in verse 11—That this Pillar—the visible token of the Presence of the Leader and Guide of the Israelites in this march both by day and by night—was to them both Shemesh and Iree—both sun and moon—both a sun by day and a moon by night—or rather, a Shemesh-Iree, both a sun and a moon at once, and either *pro re nata*.

The words therefore should have been rendered, “Sun-moon *was* the Pillar of his habitation”—and should it be objected that, on that principle, *his habitation* in the original should have been Zabelou, not Zabeleh (זבלה not זבלו) we may answer that objection by referring to verse 4—“And there was the hiding of his power;” which in the original also is Azeh not Azou (אזר not אזור). And if it should also be objected that to judge from the description which Scripture itself gives in other instances of the phenomena of this Pillar, it exhibited the appearance of a cloud by day, and that of fire only by night<sup>e</sup>—while we admit the truth of that distinction in general, still, on the strength of the more particular specification of the actual phenomena of its appearance, which is given only in this hymn of Habakkuk’s, and especially from verses 4 and 11—we may justly contend that the essential brightness of the Divine Presence

<sup>c</sup> Cf. xi. 15. 2 Sam. v. 18–21–25. 1 Chron. xiv. 9–12. <sup>d</sup> Cf. Deuteron. xxxiii. 2. Judges v. 4, 5. Ps. lxxviii. 7, 8. <sup>e</sup> Exod. xiii. 21, 22 : xiv. 20 : xl. 34–38. Numb. ix. 15–23 : xii. 5–10 : xiii. 33–36 : xiv. 14. Joshua xxiv. 7. Ps. lxxviii. 14 : cv. 39. Nehemiah ix. 12, 19.

was not, and could not be, so entirely shrouded even by the cloud purposely assumed as its covering by day, but that coruscations of glory were perpetually streaming out from it—"the brightness of which was as the light<sup>f</sup>" (i. e. of the sun, or of day, itself)—and the appearance of which, as streaming forth from the sides of this pillar, is compared to *horns*—just as the Pillar itself, in verse 11—as the visible symbol of the Divine Presence marching at the head of its armies to war—is compared to the bow and the spear of such a leader, and these coruscations, by the light of which his armies followed in his train, to the flashing of the arrows of that bow, or to the glittering of the blade of that spear.

Note Z, page 140. The following is a synopsis of these different systems of Scriptural chronology, first from the Creation to the Deluge—next from the Deluge to the Birth of Abraham—lower than which it is not necessary to trace them; the interval from the Birth of Abraham to the Exodus being much the same in them all. I take the numbers, in the Septuagint, from Carpzovius' edition, the text of which is that of the Vatican MS.—with the various readings of the Alexandrine also. The particulars of the Samaritan chronology are taken from Dr. Blayney's edition of the Samaritan Pentateuch. The numbers, which represent the chronology of Josephus, are those which are read in Havercampius' edition. Josephus' numbers, even in the same work, are frequently inconsistent with each other. But there can be little doubt that, though he professes to have followed the chronology of the Hebrew text of his own time, it must have differed from that of the Hebrew at present, by little less than a thousand years between the Creation and the Deluge, and as much as 700 years between the Deluge and the Birth of Abraham<sup>g</sup>.

*Chronology of Scripture.*

i. From the Creation to the Deluge.

	Gen. v.	Hebr.	Sam.	Sept.	Joseph.	
Adam	3	130	130	230	230	Ant. i. ii. 3.
Seth	6	105	105	205	205	— iii. 3. 4.
Enos	9	90	90	190	190	— iii. 4.
Cainan	12	70	70	170	170	— —
Mahalaleel	15	65	65	165	165	— —
Jared	18	162	62	162	162	— —
Enoch	21	65	65	165	165	— —
Methuselah	25	187	67	167 or 187	187	— —
Lamech	28	182	53	188	182	— —
Noah	32*	600	600	600*	600	i. iii. 3.
		1656	1307	2242	2256 or 2656.	

<sup>f</sup> Habak. iii. 4.

\* Cf. Hales, *Analysis of Ancient Chronology*, i. 95 sqq.

\* Cf. vii. 6 : viii. 13.

## ii. From the Deluge to the Birth of Abraham.

	Gen. xi.	Hebr.	Sam.	Sept.	Joseph.	
Shem	10	2	2	2	12	Ant. i. vi. 5.
Arphaxad	12	35	135	135	135	— —
Cainan	—	—	—	130	—	—
Salah	14	30	130	130	130	— —
Eber	16	34	134	134	134	— —
Peleg	18	30	130	130	130	— —
Reu	20	32	132	132	130	— —
Serug	22	30	130	130	132	— —
Nahor	24	29	79	179	120	— —
Terah	26	70	70	70	70	— —
		<hr/>	<hr/>	<hr/>	<hr/>	
		292	942	1172	993	

Note AA, page 149. With respect to the first introduction of animal worship into Egypt, there is nothing in Scripture to give any colour of probability to the supposition that it could have taken place up to the time of the Descent, (circa B. C. 1778,) except Gen. xliii. 32: "And they set on for him by himself, and for them by themselves, and for the Egyptians which did eat with him by themselves; because the Egyptians might not eat bread with the Hebrews, for that is an abomination unto the Egyptians:" and Gen. xvi. 34: "That ye shall say, 'Thy servants' trade hath been about cattle from our youth even until now, both we, *and* also our fathers; that ye may dwell in the land of Goshen: for every shepherd is an abomination unto the Egyptians." These texts however imply nothing of the estimation of animals, among the Egyptians, at this time; only of that of persons or of employments: the first, of that of people of another nation; the second, of that of the trade of shepherds, or tenders of cattle. We may infer from them that something like the distinctions of caste had already got footing among the Egyptians, but they authorize no inference about their estimation of animals as sacred or profane, at this time also.

Two hundred and eighteen years however later than the Descent, when Moses first appeared before Pharaoh in the execution of his commission, animal worship must have been long introduced into Egypt. So may we infer from his answer to Pharaoh, just after the plague of frogs, Exod. viii. 25, 26: "Go ye, sacrifice to your God in the land." "It is not meet so to do; for we shall sacrifice the abomination of the Egyptians to the LORD our God. Lo! shall we sacrifice the abomination of the Egyptians before their eyes, and will they not stone us?" Read idol here for abomination; and it will then appear that animals, such as the Israelites were most likely to use for sacrifice, must already have come to be esteemed objects of worship in Egypt. The same inference may be drawn from Exod. xii. 12. and 29: the declared purpose and effect of the plague of the firstborn, the



execution of judgment against all the gods of Egypt in general, yet in this way of taking in among the rest of its victims the firstborn of cattle in particular<sup>h</sup>.

The institution of the Mneuis cycle, and the adoption of an animal type of the cycle, sacred to the sun, was probably either the first beginning of animal worship in Egypt, or that which ultimately led to it.

Note BB, page 150.

*Mneuis Cycle, from the Epoch, Oct. 9 B. C. 1681, to the year before the Exodus, B. C. 1561.*

---

Cycle.	Midn.		Julian Leap-year.		Cycle.	Midn.		Leap-year.
i	Oct. 9	B. C. 1681	1		iii	Oct. 9	B. C. 1621	1
ii	9	1651	3		iv	9	1591	3
	v	Oct. 9	B. C. 1561	1 year of Julian leap-year.				

---

Note CC, page 151.

*Natales Mneuidis and Panegyry of the Waters for one cycle of the Julian Leap-year.*

---

NATALES.				PANEGYRY.			
Leap-year.			Days.				Leap year.
i	B. C. 1681	Oct. 9 + 280	=	July 16	B. C. 1680		ii
ii	— 1680	—	—	— 16	— 1679		iii
iii	— 1679	—	—	— 16	— 1678		iv
iv	— 1678	—	—	— 15	— 1677		i

Note DD, page 170.

Extracts from "The Great Pyramid, or Why was it built?" By John Taylor. London, Longman &c. 1859.

Ch. xi. § 91. page 103. From George Sandys' account of his visit to the Great Pyramid in 1610.

"At the top, we entered into a goodly chamber, (*the king's chamber,*) 20 foot wide and 40 in length; the roof of a marvellous height; and the stones so great that eight floor it, eight roof it, eight flag the ends, and sixteen the sides, all of well-wrought Thebaic marble. Athwart the room, at the upper end, there standeth a tomb, uncovered, empty, and all of one stone; breast high, 7 feet in length, not 4 in breadth, and sounding like a bell. . . . . Against one end of the tomb, and close to the wall, there openeth a pit, with a long and narrow mouth, which leadeth into an under

<sup>h</sup> Cf. Exod. xxxii. 1 4. 8. 23, 24. Cf. Leviticus xvii. 7; xviii. 3. Deuteron. ix. 16. 21; xxix. 16-18. Joshua xxiv. 14. Ezek. xx. 7, 8; xxiii. 3 sqq.

chamber. In the walls on each side of the upper room, there are two holes, one opposite to another, their ends not discernible, nor big enough to be crept into; sooty within, and made, as they say, by a flame of fire which darted through it. This is all that this huge mass containeth within his darksome entrails—all at least to be discovered."

Ibid. ch. xii. § 93. page 111. Description of the King's Chamber, by John Greaves, of C.C.C., Oxford, (Savillian Professor of Astronomy,) who visited Egypt, A. D. 1637: ch. ii. § 5. p. 6.

"This rich and spacious chamber, in which art may seem to have contended with nature, the curious work being not inferior to the rich materials, stands, as it were, in the heart and centre of the Pyramid, equidistant from all the sides, and almost in the midst, between the basis and the top. The floor, the sides, the roof, of it are all made of vast and exquisite tables of *Thebaic* marble, which, if they were not veiled and obscured by the steam of tapers, would appear glistening and shining. From the top of it descending to the bottom, there are but six ranges of stone; all which, being respectively sized to an equal height, very gracefully in one and the same altitude run round the room. The stones which cover this place are of a strange and stupendous length, like so many huge beams lying flat, and traversing the room, and withal supporting that infinite mass and weight of the Pyramid above. Of these there are nine which cover the roof; two of them are less by half in breadth than the rest; the one at the east end, the other at the west. The length of this chamber on the south side, most accurately taken at the joint or line where the first and second row of stones meet, is 34 English feet, and 380 parts of the foot divided into 1000. The breadth of the west side, at the joint or line where the first and second row of stones meet, is 17 feet, and 190 parts of the foot divided into 1000. The height is 19 feet and a half.

"Within this glorious room, (for so I may justly call it,) as within some consecrated Oratory, stands the *Monument of Cheops or Chemmis*, of one piece of marble, hollow within, and uncovered at the top, and sounding like a bell. . . . This monument, in respect to the nature and quality of the stone, is the same with which the whole room is lined, as by the breaking of a little fragment of it I plainly discovered; being a speckled kind of marble, with black and white and red spots, as it were equally mixed, which some writers call *Thebaic* marble.

"The figure of this tomb without is like an altar, or, more nearly to express it, like two cubes, finely set together, and hollow within: it is cut smooth and plain, without any sculpture or engraving, or any relevy or imbossment. The exterior superficies of it contains in length 7 feet,  $3\frac{1}{2}$  inches; in depth it is 3 feet,  $3\frac{3}{4}$  inches, and it is the same in breadth. The hollow part within is in length, on the west side, 6 feet and 488 parts of the English foot divided into 1000 parts; in breadth, at the north end, 2 feet and 218 parts of the foot divided into 1000 parts. The depth is 2 feet and 860 of 1000 parts of the English foot. . . .

"It may justly be questioned how this Monument of Cheops could be brought hither; seeing it is an impossibility that, by those narrow pas-

sages before described, it should have entered. Wherefore we must imagine that by some *machina* it was raised and conveyed up without, before this oratory or chamber was finished, and the roof closed. The position of it is thus: It stands exactly in the meridian, north and south, and is, as it were, equidistant from all sides of the chamber except the east, from whence it is doubly remoter than from the west. Under it I found a little hollow space to have been dug away, and a large stone in the pavement removed at the angle next adjoining to it, which Sandys erroneously imagines to be a passage into some other compartment . . .

“The ingenious reader will excuse my curiosity, if, before I conclude my description of this pyramid, I pretermit not any thing within, of how light a consequence soever. This made me take notice of two inlets or spaces in the south and north sides of this chamber, just opposite to one another: that on the north side was in breadth 700 of 1000 parts of the English foot, in depth 400 of 1000 parts, evenly cut, and running in a straight line 6 feet and further into the thickness of the wall—that on the south is larger, and somewhat round, not so long as the former, and by the blackness within it, seems to have been a receptacle for the burning of lamps.”

Ch. ii. § 12. p. 14. Extract from the Journal of Col. Vyse.

“I consider that the workmanship displayed in the *King's Chamber*, in this *pavement*, and in the *casing-stones*, is perfectly unrivalled; and that there is no reason to doubt that the whole exterior of this vast structure was covered over with the same excellent masonry.”

The two inlets in the north and south sides of the chamber last alluded to in Greaves' description, (as it was ascertained by the researches of Col. Howard Vyse,) were *air-channels*, intended for the ventilation of the chamber itself.

Ch. xii. § 94. p. 114. Extract from the Journal of Col. Vyse, May 12, 1837: “Mr. Hill proceeded with his operations at the southern *air-channel*, and about 7 feet from the surface of the pyramid he found within it a large stone, which he was afraid would get fixed further down. He therefore removed it with the utmost caution. . . . Upon the removal of this block, the channel was completely open; an immediate rush of air took place; and we had the satisfaction of finding that the ventilation of the *King's Chamber* was perfectly restored, and that the air within it was cool and fresh. . . . The length of the southern *air-channel* is 174 feet 3 inches, and that of the northern 233 feet. Had not the upper part of the latter channel been forced, and that of the southern been filled up with the abovementioned stone, both of them would in all probability have remained open; and the ventilation of this wonderful structure would have continued as perfect as when it was first built. . . . It is . . . satisfactorily proved by these operations that they were intended to ventilate the *King's Chamber*, and that they have no communication with any other apartment. . . . And it is to be believed that the *King's Chamber* is the principal apartment, and the security of the *Sarcophagus* within it the great object for which the Pyramid was erected.”

On these accounts Mr. Taylor himself (Ch. ii. § 95. p. 117) proceeds to observe—"What could be the reason that this Chamber, containing the King's Monument, should have had so much pains bestowed on it? and that an apartment, with no other furniture in it than an empty porphyry coffer, should have been ventilated as perfectly as if it were intended for the abode of a human being? . . . It is not likely that the chamber was designed for the reception of a dead body; for ventilation was in that respect unnecessary. . . . The only conclusion to which we can come is that the coffer, called the King's Monument, was itself the object for which all this care and foresight were taken. That this coffer was, for some purpose or other, designed to be kept safe in its cell, incapable of being removed if it were discovered, and made as secure from injury in the lapse of ages as porphyry, in a well-ventilated room, might reasonably be supposed to be, when the material of which it was formed was so perfectly homogeneous as to emit a sound, like a bell, on being struck."

In this conclusion I fully concur; but I add, in explanation of the fact, that this coffer was in reality the mystical *θάλαμος* of Osiris and Isis, and so far the cradle of all derivative Life and Being. And hence its shape, that of the double cube, one for each of the Cosmogonic Duad—the cube being the most perfect measure of capacity or content of all figures, and Osiris and Isis being the concentrated essence of all secondary and derivative life whatsoever. Hence too its position, on the meridian line, north and south; because Osiris and Isis—even in their proper capacity, and their proper relation to each other and to every thing else, as the two great Principles of life and activity—were still represented in external nature by the Sun and the Moon respectively; whose most proper place in the heavens is on the meridian also<sup>i</sup>. And hence very probably too the name of this chamber, which seems to have been handed down in Egypt from time immemorial as that of the *king's* chamber; for such was the style of the Sun, and therefore of Osiris as the same with the Sun, the *king*, the *king* *κατ' ἐξοχήν*<sup>i</sup>.

Moreover, as the first effect of the union of the two Cosmogonic Powers was the vegetable kingdom of Nature, and the mode or medium of such an union, followed by such an effect, could be only in and through the element of water<sup>k</sup>, if I am right in supposing this coffer the mystical *θάλαμος* of these Powers, this coffer itself at stated times would require to be filled with water; and therefore it was to be expected *a priori*, that there would be some communication between it and the Nile<sup>k</sup>. Herodotus accordingly speaks of a *δῶρυξ* or communication of this kind, between the Nile and the Pyramid of Cheops, as well as between the Nile and the supposed burial-place of its founder<sup>l</sup>; though he does not say that either Cheops or Chephren, the supposed builders of the first and second pyramids respectively, were buried in them also. Pliny the Elder too attests the existence of a well in the great pyramid in his time<sup>m</sup>, 86 cubits deep, which was connected with the Nile. This well is still in existence, though

<sup>i</sup> Fasti, iii. 93-100.

<sup>l</sup> ii. 124. 127.

<sup>k</sup> Cf. Fasti, iii. 101 sqq. 118 sqq. 128 sqq.

<sup>m</sup> xxxvi. 17. § 3. p. 679.



dry at present. In Greaves' description of the pyramid (Mr. Taylor, ch. xi. § 92. p. 106,) it is alluded to as follows: "At the end of it, (a narrow passage, leading into the second gallery, just before described,) on the right hand, is the well mentioned by *Pliny*, the which is circular, and not square, as the Arabian writers describe; the diameter of it exceeds three feet; the sides are lined with white marble; and the descent into it is by fastening the hands and feet into little open spaces cut in the sides within, opposite and answerable to one another in a perpendicular."

Page 118 Mr. T. observes, after Col. Vyse and Mr. Perring, "That as the floor of the king's chamber was 138 feet 9 inches above the base of the pyramid, so the base of the pyramid was 138 feet 9 inches above high Nile." And the well, he proceeds to observe, p. 119, (from Mr. Long in "the British Museum,") being 207.75 feet deep at present, and 62 feet above the base of the pyramid, the bottom, on this principle, must lie between the present levels of high and low water in the Nile. By Mr. Taylor's own calculation (p. 119), it descended ten feet below high water mark. From which we may infer that, if the time when water was most likely to be wanted for the stated services in the worship of the two Cosmogonic Powers, was that period of the inundation when the Nile was at its highest and stagnant<sup>o</sup>, it must always have been possible to fill this well at such times from the Nile.

Ch. xxi. § 125. p. 202, Mr. T. observes, "One great peculiarity, which distinguishes the earliest structures (of the Egyptians) from those of later ages, is the absence of all hieroglyphics. A farther difference is found in the shape of the Coffin or Sarcophagus. The chest or coffin in the great pyramid is so shaped as to be in every part rectangular, from side to side, and from end to end; and the bottom is also cut at right angles with the sides and end, and made perfectly level. This was the case also with the coffers of the Second and Third Pyramids. None of the coffers had any hieroglyphics carved on them. Sir Gardiner Wilkinson remarks, 'It has always been a matter of surprise that no hieroglyphics are met with either in the interior or on the exterior of the Pyramids, and that, above all, the Sarcophagus should be destitute of those sacred characters, so generally found on Egyptian monuments.' When we hear therefore (continues Mr. T.) that a mummy board was found in the Third Pyramid (Vyse, ii. p. 94), inscribed with hieroglyphics, which shew that it belonged to the supposed founder of the Third Pyramid, we may reasonably infer that it was not placed there at the time this pyramid was built."

The pyramids of all sizes, and of all ages, are reckoned to be about sixty in number<sup>o</sup>. They must have been built at very different times; and many of them after the time when it had begun to be given out that their supposed founders were buried in them, and that they had never been intended for any thing but sepulchral vaults, enclosing the tombs and bodies of these founders; many of them too, very probably, expressly to support and substantiate this profession. But with regard to

<sup>o</sup> Cf. Fasti, iii 20, cf. 584.

<sup>o</sup> Bunsen's Standing of Egypt, ii. 87, 88.

the three largest and oldest of the number, those which go by the name of the Pyramid of Cheops, the Pyramid of Chephren, and the Pyramid of Mykerinus, respectively, I should be entirely of opinion that the first two, if not the third, are older than this profession, and older than the invention of the hieroglyphical character, and simply what I have supposed, temples of the Cosmogonic Powers, Osiris and Isis. But after this profession had once begun to be given out as part and parcel of the fabulous history of the Dynasties, and it became necessary to do something with these first and oldest of the pyramids also, to bring them within the same category of the tombs or sepulchres of the Dynastic kings, their pretended founders, I should be entirely of opinion that the Egyptians, being restrained by their reverence for Osiris and Isis, to whom these pyramids were originally dedicated, and by their regard to the use and purpose to which they were originally put, from making any change in the interior of these in particular, and yet considering it necessary to give it out that these also had been intended from the first for the same purpose as the rest—in order to prevent the discovery of the falsehood of this profession by the actual inspection of their interior, came to the resolution of shutting them up. And this, it appears, they actually did<sup>p</sup>, by obstructing the regular entrances to them with granite portcullises, and blocks of stone, dovetailed in the inside so effectually, that from that moment to the day when they were forcibly broken open, no human eye had ever penetrated into the interior of these apartments. And as this could have been done only from the inside, in order to provide a means of egress for the workmen who did it, it appears from the description of the great pyramid<sup>q</sup>, they must actually have driven a perpendicular shaft right through the solid masonry of the building. It is certain at least that neither Herodotus, nor any others of the ancients who have left an account of the pyramids, however competent they might be to speak from their own observation of the exterior of these buildings, appear to have seen the interior.

In confirmation of the opinion advanced *supra*<sup>r</sup>, that the pyramid of the Egyptians was after all only an exaggerated expression of the idea of a grain of wheat or barley, we may appeal even to the name of the pyramid in Greek, *πυραμῖς*. *Πυραμῖς* in Greek would be regularly derived from *πύραμος*; and the existence of *πύραμος* some time or other in the Greek language, as well as the meaning of the term in Greek, as synonymous with *πυρὸς*, the common Greek term for wheat, are attested by *πύραμος* in Hesychius, in the sense of *χόρτος*; and by the adjective *πυράμινος*, derived from *πύραμος*, in the sense of *πύρινος*, derived from *πυρὸς*, which occurs in Hesiod<sup>s</sup>; and by *πυραμοῦς*, the Greek name of a cake, made of wheat and honey, which occurs in Hesychius also, and in Athenæus<sup>t</sup>. We should thus account too for the length of the first syllable in *πυραμῖς*; for the *υ* in *πυρὸς* is naturally long.

<sup>p</sup> Bunsen, ii. 149. 147 sqq.

<sup>q</sup> ii. 158. cf. ii. 162, 163. 166-168.

<sup>r</sup> Page 171.

<sup>s</sup> *Fragm* ii. *Poetæ Minores Græci*, i.

<sup>t</sup> Athenæus, xiv. 56.

Note EE, p. 188. I freely confess that I am a stranger to the Sanskrit language—and I am ready to acknowledge that on such a question as that of the origin of the language, the opinion of any one who knew nothing of the language itself, *a priori*, might not appear entitled to much consideration. There are however certain matters of fact, admitted, if I am not mistaken, to hold good of the Sanskrit, and of no other language besides, from which common sense, without any knowledge of the language, is competent to draw the inference, naturally suggested by them, viz. that the language to which they are peculiar, could not have grown up and been formed in the same way as every other.

i. There is the *name* of this language. The name by which it is called at present, and by which, for any thing which appears to be known to the contrary, it was always called, is that of the SANSKRIT. Now with respect to the *names* of languages (*real* languages, that is—languages which have or have had a real existence,) it may be affirmed with equal truth and confidence of all, that their proper distinctive appellations were derived or are derived from the country in which or the people by whom they were or are spoken. If the Sanskrit language then is or was a real one of its kind, I demand, where is the Sanskrit country in which it grew up, or the Sanskrit people by whom it was spoken? If no such country and no such people are known to Geography or to History, what must be thought of the origin of a language the very name of which declares it never had a country or a people of its own?

ii. There is the *meaning* of this name. “The word Sanskrita,” we are informed by Sanskrit scholars<sup>v</sup>, “is a compound participle, signifying *altogether* or *completely made, done, or formed* (Latin *confectus*), from the inseparable preposition *sam*, *altogether* or *together*, (Latin *col, com, con, cor,*) and *krita, done.* . . The word in its common acceptation denotes a thing to have been *composed or formed by art, adorned, embellished, purified, highly cultivated or polished, and regularly inflected as a language.*” The name then, it appears from its own testimony, was not taken from the people who spoke the language, nor from the country in which it was spoken, but from the assumed property of the language itself; that it was complete and perfect of its kind—that it wanted nothing for its perfection as a language. Here then we may demand, Is the name of the Sanskrit language agreeable to the analogy of those of all real languages, whether dead or living? Can any instance be produced, to parallel this, of any language still living, or known to have been formerly living and actual, which took its name from some abstract quality of the language itself, and not from the people who spoke it, or the country in which it was spoken? If not, then it must be admitted that, in this respect too, the Sanskrit stands alone, and is excluded by its name itself from the class of languages which take their names from real national or geographical distinctions, and

<sup>v</sup> Grammar of the Sanskrita Language by Charles Wilkins, LL.D., Preface, page 3.

not from abstract qualities of the languages themselves; and that, in fact, is exclusion from the family of real languages in general.

iii. There is the actual structure and composition of the language itself—that the Sanskrita, as its name implies, is indeed a *perfect language*, a language finished and complete—in which nothing is redundant, nothing is defective, nothing is irregular. How far this is truly the case with it, from my own knowledge, I am not competent to say. But we all know, that, from the supposed connection of the Greek with the Sanskrit, it is the usual practice of Greek etymologists, or lexicographers, or grammarians, at the present day, if they have any desideratum to supply in the Greek, any obsolete theme to find, any existing anomaly to explain, to have recourse to the Sanskrit; and generally speaking they discover, or suppose they discover, in that what they are in search of in the Greek. If this be the case, and the Sanskrit exhibits no imperfections nor anomalies of any kind, on what principle can it be reduced to the same category as all other languages—formed, as it must have been, in a manner peculiar to itself, as the result of the process of formation shews. Real and actual languages grow up in the mouths of those who speak them. They are the work of time and circumstances. One generation contributes as much to their formation as another, yet each independently of the rest. They are consequently full of anomalies and inconsistencies; and the same language, and in the same country, of an earlier æra, is scarcely more intelligible to its own people of a later date, than a strange tongue itself. It is the universal law of actual and spoken languages, to be constantly tending either to their improvement or to their deterioration—but never to stand still in any supposed state or degree of their natural perfection. Even if there were natural causes, constantly in operation, competent to bring a living and spoken language gradually up to this state of its natural perfection—there are none known to experience and observation, any where, which could keep it in that state of perfection—as a living and spoken language at least, perpetually. The Sanskrit differs from all other languages, both in having attained to its proper perfection, independently of such natural causes, at first, and in having maintained itself in that state of perfection, independently of such causes, ever since.

iv. The Sanskrit itself, it is agreed, is composed of elements which are reducible to two comprehensive classes; one, those which it has in common with the Greek, and the Latin, and the other European languages; the other, such as it has in common with what, in contradistinction to Sanskrit, is called the Prakrit—the vernacular or native languages of India—a very numerous class—of which Adrien Balbi, in his *Atlas Ethnographique du Globe*<sup>x</sup>, enumerates 46—Dr. Buchanan, in his *Journey from Madras*<sup>y</sup>, eight at least, under the heads of Andhra, Canarese, Karnataka, Kerala, Malabar, Malayala, Tamul, and Telinga, respectively<sup>z</sup>. The fact then of this distinction in the component parts of the Sanskrit being ad-

<sup>x</sup> A Paris, 1826, folio. Page vi. Quatrième Tableau, Langues de l'Inde.

<sup>y</sup> Lond. 1807, 3 vols. 4to.

<sup>z</sup> See General Index, *Languages*.



mitted; there is reason to believe, that these two parts bear a very remarkable proportion to each other, too remarkable, if true, not to have been the effect of design and contrivance; viz. that of equality—that the number of roots or etymons which the Sanskrit has in common with the Prakrit, and the number which it has in common with the European languages, are as nearly as possible the same. I cannot vouch for this fact from my own knowledge; but the authority from which I have collected it will be found in the note below. I shall make no further remark upon it myself than simply this, that, if true, it is well qualified both to excite and to justify the gravest suspicion—that a language so equally composed of such different materials, must have been artificial and factitious—the work of some one, who had previously the same acquaintance both with the native languages of India, and with the Greek and Latin, and the other European languages, and some time or other set himself about the construction of a new language, made up of both, but on this very principle, of each in an equal proportion to the other\*.

\* Extracts from the *Parallèle des Langues de l'Europe et de l'Inde* of F. G. Eichhoff, Paris, 1836.

Page 21. *LANGUES INDIENNES*.—En tête de la famille Indienne et de tout le système vient se placer le *Sanskrit*, l'idiome sacré des Brahmes, la source commune de toutes les langues de l'Inde. Son nom, qui signifie concret, perfectionné, montre assez les phases qu'il a dû subir avant d'être fixé par l'usage; et cependant ses monuments littéraires les plus positifs le font remonter, sous sa forme actuelle, à plus de quinze siècles avant notre ère.

Page 22. Le Sanscrit, à l'époque même de son extension, était réservé aux classes privilégiées; le peuple et les femmes parlaient l'idiome vulgaire, qui, désigné sous le nom de *Pracrit*, c'est-à-dire naturel, spontané, contenait les mêmes éléments, mais sous une forme inculte et grossière, différente dans chaque localité.

This name of *Pracrit*, applied to the vernacular languages, in contradistinction to *Sanskrit*, meaning *natural*, *spontaneous*, in opposition to *artificial*, *polished*, the work of *art* and *labour*, is very observable. The *Pracrit* in that sense is just what the *Sanskrit* itself must have been, if it had not been a factitious language.

After this, speaking of the laborious and exhaustive digest of Sanscrit roots, made by the two Hindu grammarians, Casinathas and Vopadevas, page 260, he observes, Ce précieux recueil . . . contient environ seize cents syllabes classées dans un ordre méthodique, et représentant chacune un verbe simple, source d'une foule de dérivations.

And page 261, speaking of what he had done, or proposed to do himself, he observes, En procédant avec une attention minutieuse à l'aide des dictionnaires et des traités spéciaux, nous avons cru reconnaître que, parmi les seize cents racines recueillies par les grammairiens Indiens, environ un tiers se composait de répétitions uniquement produites par la

diversité de conjugaison, un autre tiers de racines tombées en désuétude ou usitées seulement dans l'Inde, et que le dernier tiers, comprenant les racines les plus fécondes et les plus généralement répandues, constituait la véritable base de la nomenclature Européenne. C'est donc à cette dernière partie, composée d'environ cinq cents monosyllabes, que nous avons donné tous nos soins, &c.

It appears to be plainly implied in this last passage that, while the really distinct and independent roots in the Sanskrit were about 1000 in number, these themselves were divisible into two halves of about 500 each—one of them supplying the elementary forms of such terms as the Sanskrit still has, or once had, in common with the vernacular languages of India, the Prakrit; the other, those of such as it had, or was supposed to have, in common with the Greek and Latin, and the other European languages.

Much to the same effect too is the account given of it in the Atlas Ethnographique of Adrien Balbi, referred to supra.

Page vi. Quatrième Tableau, Langues de l'Inde, No. 40. SANSKRIT, que les Indiens appellent SANSKRITA, c'est-à-dire *parfait, achevé*. Cette langue paraît avoir été parlée anciennement dans la plus grande partie de l'Inde; elle ne l'est plus, depuis bien des siècles, et y est actuellement apprise par les Brahmanes et les Indiens les plus instruits, comme chez nous on apprend le Grec et le Latin. C'est la langue religieuse, celle des lois, et d'un grand nombre de livres; les Brahmanes les plus savans s'en servent encore dans leurs compositions de haute littérature. . . .

Le Sanskrit, que la plupart des philologues considère comme la souche de la prétendue famille Indo-Germanique, a beaucoup d'analogie avec le Slave, le Malais, et autres langues; et une bien plus grande avec le Zend, le Persan, le Grec, le Latin, et tous les idiomes Germaniques, surtout avec le Meso-Gothique, et l'Islandais. . . .

Aussi antique que celle des Chinois, la littérature Sanskrite lui est inférieure en tout ce qui a rapport à l'histoire, à la géographie, et aux sciences naturelles; elle est, après la littérature Chinoise, Arabe, et Persane, la plus riche de l'Asie, se distinguant surtout par ses ouvrages de philosophie, de morale, de grammaire, d'arithmétique, d'astronomie, et de poésie. . . .

No. 41. LANGUES VIVANTES—que plusieurs savans Indiens appellent avec une dénomination générale PRACRIT. Plusieurs de ces langues paraissent être dérivées du Sanskrit; elles sont parlées dans l'Inde, dans les régions limitrophes, et dans les îles adjacentes. Dans plusieurs de ces idiomes, la moitié des mots sont Sanskrits purs; le reste se compose ou de mots, dont une partie appartient à des langues étrangères connues, surtout au Persan, et une partie à d'autres qu'on n'a pas encore pu reconnaître, ou de mots Sanskrits changés et corrompus d'après un système régulier de permutation, en altérant plus ou moins certaines lettres. Les Saraswata, nation Indienne qui a disparu depuis long-temps, et qui vivait le long du Saraswati dans le Penjab, parlaient une langue particulière dérivée du Sanskrit, et qu'on indiquait sous la dénomination de PRACRIT.

This testimony too is sufficiently clear to the point that half the real

elements of the Sanskrit are common to the Prakrit, and the other half to the languages which are not Prakrit, in the sense of vernacular at least. The last observation, that the Prakrit itself was properly the language of a former nation of the Punjab, on the borders of the Saraswati, is important; for the Punjab was probably the birthplace of the Sanskrit, (if it was, after all, a factitious language), at a time when these Saraswata might have been not only living and flourishing, but the principal people of that part of India.

In a word, if there is any other language, which in such distinctive particulars as these of being a *dead* language, spoken by no people nor in any country of the world, at present, yet the language of religion, and learning, and literature in general, within its own sphere of circulation, (and that a very extensive one,) like the Sanskrit, and almost as polished and perfect of its kind as the Sanskrit—it is the *PALI*, the language of Buddhism all over the east, as Sanskrit is of Brahminism. But the parallel between the two languages goes no further. Of the Sanskrit we can assign neither *time* nor *place*, neither *when* nor *where*, it was once a living and spoken language—without begging the point in dispute. The Pali, on the contrary, has an *history*. It can be traced to the country *in* which, and the people *among* whom, Buddha and Buddhism themselves both took their rise. The following is Adrien Balbi's account of it.

No. 41. *BALI* ou *PALI*, dit aussi *MAGADHA*. . . Cette langue, qu'on peut considérer comme sœur du Sanskrit, était parlée anciennement dans le Magadha ou Magudha (partie du Bahar au sud du Gange), regardé par plusieurs savans Indiens comme le pays natal de Bouddha. Après avoir été très répandue dans l'Inde avant la naissance de Jésus-Christ, elle s'est éteinte . . . depuis très long-temps, quoiqu'il soit resté la langue liturgique et littéraire des îles de Ceylan, de Bali, de Madura . . . Le Pali est aussi la langue religieuse de tous les nombreux habitans des empires Chinois et Japonais, qui professent le Lamisme et le Bouddhisme. Le Pali a la force, la richesse et l'harmonie du Sanskrit. Sa littérature est très riche, et on pourrait la nommer *Bouddhique*, parce qu'elle contient les ouvrages authentiques qui forment la doctrine des Lamistes et des Bouddhistes; elle est la source de la littérature des Birmans, des Pegouains, des Tonquinois, des Cochinchinois, des Siamois, des Japonais, des Cingalais, et des Tibétains. Dans tous les pays peuplés par des Lamistes, et des Bouddhistes, les gens instruits apprennent cette langue, comme dans l'Inde et en Europe on apprend le Sanskrit et le Latin.

Again, speaking of the Magadha language, No. 76. Parlée dans le Bahar méridional, &c. Le territoire où l'on parle cette langue est célèbre dans la mythologie et l'histoire de l'Inde, parce qu'il est la patrie de Bouddha, et parce qu'il faisait partie de ce puissant royaume de Magadha, qui embrassait anciennement toutes les provinces situées sur le Gange. Quelques savans orientalistes considèrent le Magadha comme la souche du Pali, d'autres le regardent même comme identique à cette dernière langue, qui ne serait autre chose que le Magadha poli et perfectionné par les savans Bouddhistes.

v. There is one question however, directly connected with this of the claims of the Sanskrit to the character and estimation of a genuine language, on which, without professing to know anything of it as a language, I may consider myself competent to express an opinion, and even entitled to speak with some authority. And that is, the question of the ANTIQUITY of the oldest remains of the language at the present day. It seems to be agreed that the best entitled to that character, among them, is the Rich or Rig-veda; and the first four Ashtakas or Books of the Rig-veda itself having been translated by the late Professor Wilson, from the text of the original as restored and edited by Mr. Max Müller, and having been published at the expense of the East India Company, these oldest and hitherto most esoteric of the extant remains of Sanskrit literature have been brought within the cognizance even of those who know nothing of the Sanskrit itself, and may be judged of in these translations by English readers, as much as in the originals by Sanskrit scholars.

The question indeed of the age of any of the extant remains of Sanskrit literature, and that of the claims of the language itself to be considered as once a living and spoken language of its kind, are not the same—but every one must admit that they are intimately connected; and every one also must admit, that, when we consider the high degree of antiquity which modern Sanskrit scholars do not scruple to claim in behalf of such of its monuments at present as this of the Rich—if it can be shewn that even this is not entitled to *half* the antiquity so confidently challenged for it, the proof of that fact will be well calculated to give additional strength and probability to the suspicions, otherwise suggested, about the *language* of these supposed most ancient compositions themselves—as very possibly, after all, an invention of comparatively recent date.

i. With respect to the First Book of the Rig-veda-Sanhitā (Collection), the English version of which appeared in 1850, and for which an antiquity of twelve or thirteen, or fourteen or fifteen, centuries before the Christian æra, appears to be claimed by the learned translator<sup>a</sup>—it was shewn in

And again, No. 41. BALI ou PALI. . . . . En résumant tout ce que l'on a publié jusqu'à présent sur cette langue, encore très peu connue, il nous semble qu'on pourrait bien y distinguer les dialects suivans, qui diffèrent peu du Sanskrit, et encore moins entre eux; le *Magadha*, qui est la langue littéraire et religieuse de l'intérieur de l'île de Ceylan, ou Langa; le *Pali* ou *Bali*, proprement dit, qui est la langue littéraire et religieuse des empires Birman et Annamitique, ainsi que du royaume de Siam, et la langue liturgique de tous les Bouddhistes de l'empire du Japon; le *Fun*, qui est la langue religieuse de tous les nombreux Bouddhistes de la Chine propre, &c. . . . Le *Kawi*, qui était la langue de la littérature et de la religion d'une grande partie de Java, avant l'introduction de l'Islamisme, et qui l'est encore de l'île Bali, et d'une partie de celle de Madoura."

<sup>a</sup> Preface, xlvii, xlviii. Preface of second Ashtaka, page i.



the *Fasti Catholici*<sup>b</sup>, from the internal evidence of the work itself, that though it must have been older than B. C. 699, and older than B. C. 710, it could not have been older than the date of the Lunar correction of the Hindu calendar, B. C. 946—recognised by itself as in existence in its own time : and, in fact, that its true age was most probably to be assumed about B. C. 800.

ii. With regard to the second Ashtaka, the translation of which appeared in 1854—to judge of the age of this too from the same kind of internal evidence as that of the antiquity of the first, and, i. from the rule of the Noctidiurnal cycle, recognised in it—allusions, which at first sight might require to be understood of the primitive rule of the cycle, do certainly occur in it ; as, for instance, page 73, ver. 7 : “ Beautiful night and morning—page 78, ver. 4 : Worship night and day—page 89, ver. 6 : Both at evening and at dawn—page 190, ver. 4 : I approach you . . . with reverence night and day.” But by far the greatest number, which occur in it, run in the style of *day* and *night*, *morning* and *evening*, not *vice versa* ; that is, of the rule of the cycle among the Hindus at the present day ; a change of the primitive idiom in that respect, (once, no doubt, as common in India as every where else, and the only one recognised as yet in the First Ashtaka,) the origin of which I have already traced up to the second miracle of Scripture, B. C. 710.

Thus, page 1, ver. 2 : Animated by our diversified praise, hasten *morning* and *night* to attend to our first invocation—page 8, ver. 7 : The twofold day proceeds unseparated ; one (part) going forwards, one backwards ; one of these two alternating periods effects the concealment of things, &c.—page 10, ver. 2 : . . . The Dawn shines, the similitude of the (mornings) that are passed, or that are to be, for ever, the first of those that are to come ; cf. ver. 3. 5—page 12, ver. 8 : The sister (*Night*) has prepared a birthplace for the elder sister (*Day*), and having made it known to her, departs ; cf. ver. 9—page 39, ver. 6 : Our morning rite—page 40, ver. 2 : Wakes at dawn, and celebrates pious rites—page 46, ver. 3 : Lights up the dawn—page 49, ver. 3 : Radiant along with the sun—page 52, ver. 1 : The most excellent dawn—page 55, ver. 2 : At the awakening of the dawn—page 60, ver. 5 : Grant us by day and night—page 89, ver. 10 : The days with the nights have not attained your divinity—page 100, ver. 1 : The spreading dawn—page 162, ver. 5 : Rays of the ever-recurring mornings—page 173, ver. 2 : Which the sisters (*Day* and *Night*)—page 174, ver. 1 : Both day and night—page 185, ver. 1 : When the morning dawn—page 187, ver. 1 : And the days (and nights) revolve as if they had wheels—page 188, ver. 4 : Of the divine days (and nights)—page 196, ver. 6 : Let the brilliant and beautiful *Day* and *Night*—page 214, ver. 2 : The mornings and evenings—page 218, ver. 6 : *Day* and *Night*—page 286, ver. 5 : Mutually contemplating *Day* and *Night* ; cf. page 307, ver. 4. 5—page 330, ver. 6 : The adored *Day* and *Night*.

In all these instances, the precedence is given to *day* or *morning*, not to *night* or *evening*, and evidently as matter of course, as an order long esta-

<sup>b</sup> iv. 60 n.

blished, and well understood in the time of the speaker. They shew therefore the habitual association of these ideas in the Hindu mind of the æra of this Ashtaka. If so, judging from this criterion only, we should be justified in concluding that the author or authors of such allusions could not have been older than B. C. 710, and in fact must have been a good deal later.

ii. Though no allusion to the Mansions of the Hindu sphere was discoverable in the first Ashtaka, *one* is discoverable in this second, page 31, ver. 1: Come to us, Indra, from afar . . . like the royal lord of the constellations, (when going) to his setting. This lord of the constellations, it appears from the scholia on the place, was the Moon, and the constellations themselves were the lunar houses or mansions (*Nakshatránám*). There is another reference to the constellations, page 151, ver. 11: Maruts . . . manifest afar off, as the gods (are made manifest) by the constellations. Though then allusions of this kind are not frequent in this Ashtaka, yet as even *one* to the mansions by name is competent to prove that the author of it must have been aware of their existence, we may argue even from a solitary instance of this kind, that the work in which it appears must have been younger at least than the first introduction of the Mansions along with the sphere, into India, from Egypt—B. C. 699 c.

iii. Allusions however occur in this second Ashtaka, from which we can approximate still more nearly to the probable date of the work, or of parts of it at least, some time between B. C. 452 and B. C. 348.

i. The author or authors of this Ashtaka seem to have been aware of the *three* spheres, of which I gave an account *supra*<sup>d</sup>, as all which were known to the ancients, and, in fact, all which ever existed—two of them, (that of B. C. 1847 and that of B. C. 1347, respectively,) older than that which passed to the Hindus (B. C. 848 or 847). We may infer this from the peculiar allusions which occur in *Súkta* (Hymn) xv and xvi of *Anuvāka* (Chapter) xxi of this second Ashtaka.

i. Ch. xv. 1, page 93: Earnestly I glorify the exploits of *Viṣṇu*, who made the three worlds, who sustained the lofty aggregate site (of the spheres), thrice traversing the whole . . .

Ver. 2. *Viṣṇu* is therefore glorified . . . because that in his three paces all worlds abide.

Ver. 3. May acceptable vigour attend *Viṣṇu* . . . who alone made by three steps this spacious and durable aggregate (of the three worlds).

Ver. 4: Whose three imperishable paces . . . delight (mankind) . . . who verily alone upholds the three elements, (or, *as it is in the note*, the three periods of time, i. e. the *three measures of duration of these three spheres*.)

ii. Ch. xvi. (addressed to Indra as well as to Vishnu) page 97. 4: Therefore verily we celebrate the manhood of that lord (of all) . . . who traversed the three regions with three wide steps, in different directions, for the many-praised preservation of existence.

<sup>c</sup> *Fasti*, iv. 47 sqq.

<sup>d</sup> Page 177 sqq.

Ver. 5 : Man, glorifying (VISHNU), tracks two steps of that heaven-beholding (deity), but he apprehends not the third ; nor can the soaring-winged birds, (that is, Garuda, and other birds,) (pursue it).

Of these allusions to the three paces or steps of *Vishnu*, to the three worlds or regions on earth, defined thereby, and to the three spheres similarly defined in heaven, and the three elements, or rather, periods of time, connected with each, the scholiasts give no explanation, which can be considered satisfactory. The truth is, there is a reference in them all to the three editions of the sphere, each of them in point of duration commensurate with one cycle of the Phoenix period. Nor is anything necessary to the understanding of them, but that we should regard these spheres both in themselves, and in relation to everything else, from the same point of view, from which the author of these allusions himself regarded them, viz. That the three spheres were so many firmaments or heavens, each defined by one of the paces of the sun, or *Vishnu* ; and every state of the heavens supposing a corresponding state of the earth, the three worlds defined by the same paces also, were three states of the earth below adjusted to those of the heavens above, and the three elements or periods were the respective measures of the duration of each of these spheres above, and of each of these worlds below.

With this clue to its meaning, the language of these allusions, however enigmatical at first sight, becomes intelligible. On this principle too, it is easy to explain the distinction pointed out in verse 5 of the xvth Sûkta, "That man, glorifying *Vishnu*, could track two of these steps of his, but could not apprehend the *third*, which even the soaring on wings, the birds, and such birds too, as the bird of the sun itself, *Garuda*, could not pursue to its end." Understand this too of the three spheres in question, and there is no mystery in it. The two first, men were capable of comprehending, i. Because both of them were now historical, having long since answered their purpose, and served their time. ii. Because both had been subject to the same law, the proper law of the Phoenix cycle, from the first, both simple and uniform of its kind. The third was beyond human comprehension, i. Because it was not yet at an end, it was still fulfilling its purpose, and serving its time, and how it would ultimately terminate, and what would succeed to it, could be known beforehand only to *Vishnu*. ii. Because this in particular was the proper subject of a different law, a different measure of its duration, from either of the preceding—which is understood, as soon as it is explained that, between the date of the publication of the third type of the sphere, in Egypt, in B. C. 848, and its reception among the Hindus, B. C. 699, the rule and administration of the Phoenix cycle had undergone a change. The doctrine of the alternate Recession and Precession of the cardinal points, and with it a new Period of the Cycle, had been introduced into Egypt in B. C. 798—and in this state everything had passed from the Egyptians, and been received elsewhere. And this is probably the reason why not only men, but even the bird of *Vishnu* itself, could not keep pace with this third step of his. For this bird of *Vishnu*, the Indian *Garuda*, was the Egyptian *Phoenix*, translated

to India; and even the Egyptian Phœnix, which had come into existence along with its own period of 500 years, and the first of these steps of Vishnu, and had accompanied the second of these paces through a second period of the same kind, might well be supposed at a loss to recognise its proper correlative in this new period of 640 years, or to keep pace with this third step of *Vishnu's*, as the new measure of its own existence\*.

From these allusions then it must be inferrible that, whosoever was the author of them, he could have been no stranger to the Phœnix cycle and period, nor to the three types of the sphere, of the epochs of B. C. 1847,

\* Allusions, kindred to the preceding, and referrible apparently to the same things, occur in the first *Ashtaka* also, as the following quotations will shew.

Vol. i. p. 53. v. 16 : May the gods preserve us from that portion of the earth, whence VISHNU, aided by the seven metres, stepped.—Ib. 17 : VISHNU traversed this (world); three times he planted his foot, and the whole (world) was collected in the dust of his (footsteps).—Ib. 18 : VISHNU the preserver, the uninjurable, stepped three steps, approaching thereby righteous acts.—i. 96. 8 : Come Aswins, . . . rising above the three worlds, you defend the sun in the sky.—Ib. 12 : Borne in your car that traverses the three worlds.—98. 2 : (Of SAVITRI or the sun) Beholding the (several) worlds.—Ibid. 6 : Three are the spheres, two are in the proximity of SAVITRI, one leads men to the dwelling of YAMA (i. e. the Ruler of the Dead).—99. 7 : *Suparna* (the solar ray) . . . has illuminated the three regions (cf. 100. 11).—P. 264. 8 : . . . Protector of men, thou art more than able to sustain the three spheres, the three luminaries, and all this world of being. cf. 265. 1.—P. 271. 5 : Gods who are present in three worlds, who abide in the light of the sun. Cf. 288. 3.

There is no reason why these allusions also should not be supposed to have had their ultimate foundation in something which their author, or authors, had heard of the three spheres of the Egyptians, by B. C. 800, 48 years at least later than the publication of the third sphere, B. C. 848. This sphere indeed was not formally received and adopted in India, before the termination of the first period of 247 years, reckoned from E. C. 946—that is, B. C. 699—but that is no argument that nothing was known in India either of this third type of the spheres, or of the first and second, before B. C. 699 also.

Allusions still more akin to those in the second *Ashtaka* occur in the third and fourth also; which it will be sufficient to point out, without entering upon any particular consideration of them; the same explanation which has been given of those in the second being applicable also to these. The reader who is curious to see them, will find them in the third *Ash-taka*, vol. iii. 93. 14 : 100. 2. 5. 8 : 204. 4 : 212. *sûkta* v. 1 : 218. 5, 6. (cf. ii. 275. 8) : 222. 3 : 238. 3 : in the fourth *Ashtaka*, vol. iii. 355. 2 : 371. 4. cf. 357. 3 ad calc. : 394. 3. 4 : 399. 2 : 404. 9 : 461. 23 : 470. 4 : 473. 19 : 484. 13 : 488. 2 : 506. 12.



1347, and 847, or 848 respectively; and also that, with such a knowledge of them as this, he could have been writing only between B. C. 848 and B. C. 348, the beginning and the ending of the third Phœnix cycle in particular. And this conclusion may be confirmed by another allusion, in this xvth Sūkta, which takes up that in the 5th verse, and concludes the chapter.

Ver. 6: He (scil. VISHNU) causes by his gyrations ninety and four periodical revolutions, like a circular wheel, vast of body, and evolving in many forms.

This allusion has given much trouble to the commentators on the *Vedas*, and they have been put to their shifts to make out these 94 revolutions of *Vishnu*. They solved the problem, as it appears from the Professor's note, by identifying *Vishnu* here with *Time*, (i. e. dropping his personal relation to the Sun altogether,) and then finding, as they supposed, 94 different kinds of periods, in the essence of Time.

- 1 in the year.
- 2 in the solstices.
- 5 in the seasons.
- 12 in the months.
- 24 in the half months.
- 30 in the days.
- 8 in the watches.
- 12 in the signs of the zodiac.
- 
- 94 in all.

It can scarcely be necessary to dwell on the exposure of such an arbitrary explanation as this. Let me pass at once to what I take to be the true one. It has been seen that the author of these *Sūktas* must have been aware of the Phœnix cycle and period of the Egyptians. If so, it may well be presumed he was aware also of that general scheme and succession of those cycles which they appear to have contemplated from the first, through the Great Period of 96 Phœnix cycles, 48,000 years, in which the recession of mean tropical time on mean Julian, in such a combination of both together as that of the sphere of Nature and the sphere of Mazzaroth, was destined to make an entire revolution of the heavens, and an entire revolution of the calendar, until it came round to the same point at the end from which it set out at the beginning<sup>c</sup>.

This revolution however having begun with the first type of the sphere, B. C. 1847, two of these periods of 500 years (two of the 96) had already elapsed by B. C. 848; and when the sphere of that epoch passed to the Hindus, 94 were all that still remained to be completed. These 94 cycles of 500 years, still necessary to complete the great period of 96, are the 94 gyrations of *Vishnu* alluded to above. The explanation requires only to be stated, to command the assent of every unprejudiced person. The in-

<sup>c</sup> Supra, 230, 231.

ference from it, of the date of the allusion to it, is the same at which we have already arrived. The revolutions of this kind, already completed, in the reason of things, must be excepted from those which *Vishnu* was still causing or destined to cause; and those being represented as two out of the original number of 96, this allusion to the 94 still remaining must have come some time between B. C. 848, the date of the third, and B. C. 348, that of the fourth.

But to proceed. It cannot indeed be taken for granted that the various Hymns, which make up the *Sanhitá* or collection of the *Rig-veda*, were all the work of the same author, or all written at the same time; no more than it could be of the Psalms in the Hebrew Bible. Nor though we might have succeeded in determining the time of some *one* of these Hymns, would that be necessarily any criterion of the age of the rest. Still, to have fixed the date of any one, with certainty or probability, is a considerable step towards the discovery of the age of the whole collection, which, as the work of kindred minds, employed on kindred subjects, it may be presumed, must have been conceived and composed much about the same time. I shall therefore endeavour to shew that there are parts of this second *Ashtaka*, which could not have been written before B. C. 452, and were very probably written in that year, must have been adapted at least to that year; and there are others, which could not have been written before B. C. 205, and in all probability were actually written in that year.

i. Then, that parts of this *Ashtaka* could not have been written before B. C. 452. In order to the proof of this fact, I begin with referring the reader to the account given in the *Fasti*<sup>d</sup> of the peculiar rule of the administration of civil time, laid down and acted upon by those who had the direction of the calendar in India, *de facto* from B. C. 699, virtually from B. C. 946, (the date of the adoption of the lunar correction,) down to A. D. 538—when it attained at last to the object proposed by it from the first, the attachment of the head of the calendar to March 22, the Luna 7<sup>a</sup>, A. D. 538, the nearest epoch at that time to the date of the sphere of Mazzaroth, March 25, B. C. 946. It made part of the details of this administration, to have a fresh beginning of the civil year, a fresh type of the calendar, a fresh type of the Mansions, a fresh type of the Sphere, every 247 years; and there were six of these types in all, (contemplated too and provided for from the first,) between the beginning of this process, B. C. 946, and the end, A. D. 538.

Now in the viiith *súkta* of the xxiid *Anuváka* of the second *Ashtaka*, are three verses, 4, 5, 6. p. 127, 128, as follows.

Ver. 4. "Who has seen the primeval being, at the time of his being born? what is that endowed with substance, which the unsubstantial sustains? From earth are the breath and blood, but where is the soul? Who may repair to the sage, to ask this?"

This verse is such as might express the feelings and sentiments of one, who was contemplating and meditating upon such a scheme as this of the

<sup>d</sup> iv. 31-47.

administration of civil time, which I have just described, extending so far into the future, yet all calculated beforehand, and already laid down, through these six types of the Sphere, and types of the Calendar, as the fore-ordained course of time, and of the motions of the sun, for  $247 \times 6$  or 1482 years to come. It serves therefore as a natural introduction to the verses which follow, relating to these types themselves, still indeed unrealized, yet as certainly known and delineated even then, as if they were already passing or past.

Ver. 5. "Immature (in understanding), undiscerning in mind, I inquire of these things which are hidden (even) from the gods; (what are) the seven threads which the sages have spread to envelope the sun, in whom all abide?"

Ver. 6. "Ignorant, I inquire of the sages, who know (the truth); not as one knowing (do I inquire), for the sake of (gaining) knowledge: What is that ONE alone, who has upheld these six spheres in the form of the unborn?"

The scholia, as usual, give no real assistance in either of these cases. But the questions in both these verses are substantially the same. Both relate to this *one*, so long before contemplated and forecast, scheme of the course of time, and of the motions and phenomena of the heavens. We learn from Professor Wilson's note on ver. 5, that the word rendered there by *sun*, might just as well have been rendered by *time*; and in that case the question will be, What are the seven threads which the sages have spread to envelope (to *encompass*, to *comprehend*, to *contain*) that, in which all other things are comprehended, *time*? and it will evidently point to those *seven* types of the calendar, from the first, B. C. 946, to the seventh, A. D. 538, intended to comprehend the whole course of time through these 1482 years, and to connect by one continuous thread the time of B. C. 946 with that of A. D. 538. And as the question in verse 5 will thus inquire about the future types of the calendar, individually indeed different from, but essentially the same with, the first of the kind of all, so will that in verse 6 about the different types of the sphere, destined to accompany these types of the calendar—What was that ONE archetypal, primary, absolute and invariable idea and form, pervading them all, and making a reality of each, even before it was yet born? One who could answer such inquiries as these in verses 5 and 6, respecting the Time of all Time, and the Sphere of all Spheres, might be competent to answer the question in verse 4, respecting the Being of all Beings, and the Substance of all Substances.

It is a just inference then from these passages of the Sûkta in question, that the author of these allusions must have been well aware of the peculiar rule of the administration of the Hindu calendar, and the Hindu sphere, from B. C. 946 downwards. And this is confirmed by another allusion which occurs in this Sûkta. It made part of the rule in question, in regard to the calendar, that every 247 years an extra month of 28 or 29 days should be intercalated, and the head of the calendar be advanced one month. And the relation of the civil months to the natural solar

months in the Hindu calendar being such, from B. C. 946 downwards also, that every month in the calendar and the corresponding sign of the ecliptic began together, it is manifest that, under such circumstances, to intercalate an *extra* month at stated times in the calendar, would be to intercalate an *extra* sign at the same time in the sphere.

Now page 131, verse 13 of this Sūkta, it is observed, "All things abide in this five-spoked revolving wheel . . . ;" and ver. 15: "Of those that are born together, sages have called the seventh the single-born: for six are twins, two are moveable and born of the gods: their desirable (properties), placed severally in their proper abode, are various (also) in form, and revolve for (the benefit of) that which is stationary."

It is here to be explained, that the sage, or the sages, so often alluded to in these Sūktas, (as it may be inferred from the context,) are commonly to be understood of those who first conceived and laid down that administration of the calendar and of the sphere which I have described, and (as it will thereby be implied) long before the time of the authors of these Sūktas. As to the class of beings, abiding in this all-comprehending five-spoked wheel, thus supposed to have been born in the shape of twins, two and two together, and born of the gods, not of men, and moveable, and various in their desirable properties, yet all revolving for the benefit of that which itself was stationary—there cannot be much doubt that it is to be understood of the signs of the ecliptic, as of Divine origination, not of human; as liable to be affected by Precession; as revolving round the earth, (itself immovable and stationary,) and regulating the cycle of its productions: which signs the Egyptian division of all things into masculine and feminine<sup>e</sup> associated together as male and female (cf. v. 16), and the astrological system of the Chaldees as twins in power and influence; and which Nature itself had united by two and two in the scale of ascent and descent in the sphere at least—a character expressly attributed to them in the 19th verse of this Sūkta, p. 133: "Those which (the sages) have termed descending, they have also termed ascending; and those which they have termed ascending, they have also termed descending."

The allusion then in verse 15 being thus clearly determined, by that in verse 19, to the signs of the ecliptic, as divisible into pairs perpetually,—(though the scholia, with their usual infelicity, understand these six twins of the six seasons of the Hindu year,) it is very observable that besides these six thus born in couples, and born of the gods, a seventh is supposed to have an existence of its own, single-born of its kind, (i. e. without mate or peer,) not of divine appointment, and consequently of human, yet a sign of the ecliptic notwithstanding, like all the rest. Now what could this be but that 13th sign, which, as I have explained, must have come in at stated times in the Hindu sphere, to answer to the 13th month, which came in at the same times in the Hindu calendar?

This therefore may be added to the proofs of what I am contending

<sup>e</sup> Fasti, iii. 108 n.: iv. 668.



for; that, whosoever was the author of this Sūkta, he could not have been ignorant of the peculiar administration of the calendar from as far back as B. C. 946. And as to any intimations, discoverable in this Sūkta, from which it might be inferred at what period in this administration he was probably living—the Sūkta begins as follows:—

Page 125, ver. 1: "I have beheld the Lord of Men with seven sons: of which delightful and beneficent (deity) . . . there is an all-pervading middle brother, and a third brother, well fed with (oblations of) ghee.

— ver. 2: "They yoke the seven (horses) to the one-wheeled car; one horse, named seven, bears it along; the three-axled wheel is undecaying . . .

— ver. 3: "The seven who preside over this seven-wheeled chariot (are) the seven horses who draw it; seven sisters ride in it together; and in it are deposited the seven forms of utterance."

Here, it is observable, this Lord of Men, (the sun,) is described as one of a series of brothers, three in number, one, next older than himself, called the *middle* brother, and one, next older than this, called the third. Now the six types of the sphere, as contemplated by the reformers of the calendar from the first, might all be spoken of in this figurative relation to each other of *brothers*, scions of the same stock—members of the same family—the first and oldest, the sun of B. C. 946, the second, the sun of B. C. 699, and the third, the sun of B. C. 452. And these being all which the author of this allusion recognises as historical, it is a just inference, in my opinion, from that fact, that he must himself have been living and writing in the time of this Third Type, B. C. 452—B. C. 205. Consequently though he might have been younger, he could not have been older, than B. C. 452.

A little lower down, page 129, ver. 10—we meet with another allusion—"The one sole (sun), having three mothers and three fathers, stood on high." The one sole sun, or rather, being, here in ver. 10, and the one alone, alluded to in ver. 6, may well be supposed to have been meant of the same thing; and the latter, as we have seen, being the common informing and pervading principle of the six spheres, the former must have been the common pervading and informing principle of the first three, concentrated and summed up in the third, now current—figuratively described as the son of three fathers and three mothers; that is, of the three spheres, with their respective assortment of male and female signs. Cf. ver. 16.

It is also to be observed that, as the period of 247 years, which measured the duration of each of these types of the calendar in its turn, was a lunar and solar period of thirteen Metonic cycles, the epochal term of the first type having been the Luna 7<sup>a</sup>, that of every other in its turn was the Luna 7<sup>a</sup> also. And that circumstance of distinction is competent to explain the allusion in the first verse of this Sūkta (p. 125, 126) to the seven sons of the Lord of Men (the sun, the presiding and informing principle of all these types). It is also to be observed that, as the epochal mean longitude of the mansions, in each of these types of the sphere, setting out from 0° 0' 0" in the first, went on increasing in each succeeding

one by 3 20', the epochal longitude of the third, that of B. C. 452, would be 6° 40'; and the graduation of that type might naturally be said to have begun in the 7th degree. And that is competent to explain the next allusion in this Sūkta (ver. 2). "They yoke the seven (horses) to the one-wheeled car: one horse, named seven, bears it along"—that is, it sets out in the *seventh* degree. And again, in ver. 3: "The seven, who preside over this seven-wheeled chariot, (are) the seven horses who draw it: seven sisters ride in it together, and in it are deposited the seven forms of utterance." To reconcile the imagery of this 3rd ver. with the figurative language of ver. 2, which spoke of a one-wheeled, not a seven-wheeled, car, and of one horse which drew it, not of seven, we must suppose this seven-wheeled car to be meant of the seven types of the sphere, summed up in this common idea of a chariot, applicable to all alike; to each however as drawn by an horse of its own, that is, setting out from its own proper epochal degree of mean longitude. The seven sisters, who ride in this chapter, are the seven spheres themselves; and the seven forms of utterance deposited in it also, (though differently explained in the scholia,) are the seven differences of epochs and longitudes in each of these spheres respectively, both *inter se* and relatively to every thing referrible to them.

It is also to be observed that, p. 130, ver. 12, the sun, both as *Purīshin*, (the sun of the northern hemisphere,) and as *Arpita*, (the sun of the southern,) in either case, as the twelve-footed parent of the twelve months or the twelve signs, is termed the *five-footed*; and further on in the book, (page 311, ver. 3,) *Soma* and *Púshan*, (the former the moon, the latter the sun in *Capricorn*, cf. p. 56, ver. 1-4: *Rig-veda*, iii. 496. 3: 498. 3: 499. 2,) are apostrophised as follows: "*Soma* and *Púshan*, showerers (of benefits), direct towards us the seven-wheeled car, the measure of the spheres, undistinguishable from the universe, every where existing, (guided) by five reins, and to be harnessed by the mind." Here too the seven-wheeled car is put forward as the idea of the seven types of the sphere in the abstract. But the thing to be observed is that this car is now said to be guided by five reins; just as it was said to have five feet before. Now either of these would be a very suitable metaphor for the *epoch* of one sphere as laid down in the *fifth* degree of *another*; and that would be the relation of the Tropical sphere to the sphere of Mazzaroth, B. C. 452—when the mean vernal equinox was actually falling on March 28, five days later than March 23 or 24, the epoch of the sphere of Mazzaroth.

ii. With regard to the proof of my second proposition f, that there are parts of this second *Ashtaka* which cannot have been older than B. C. 205—it is supplied by two of the hymns in it, which Professor Wilson pronounces the most remarkable of all g, the subject of which is the *Aswamedha*, or "Sacrifice of the Horse"—page 112, *Anuváka* xxii, Sūkta vi, and page 121, *Anuváka* xxii, Sūkta vii.

It is evident from these two hymns, (pag. 113. 2: 121. 1. (cf. 300. 6.) 121, 122. 2: 123, 124. 9.) that this horse is the horse of Indra, the horse

f Supra, 285.

g Introduction, xii.

of the sphere, the horse of Sagittarius, and that what is celebrated in these two hymns, is not so much the *Sacrifice* of this horse, as the *Apotheosis*; the translation of this horse of the sphere, as soon as its proper connection with, and proper office in relation to, the sphere was over, to the gods from whom it originally came. This appears very clearly from p. 112. 1: 115. 7: 119. 16. 18: 120. 20, 21: 123. 6, 7, 8: 124, 125. 12, 13.

That we are right in this inference, and that the sacrifice of this horse was simply his return to the original source of his being, as soon as his term of service for the uses and purposes of the sphere was over, may be collected from ver. 19: "There is one immolator of the radiant horse, which is Time; there are two (other immolators) that hold him fast." This first and proper immolator, it seems, was Time—i. e. as soon as his term of service in behalf of the sphere was at an end, he must necessarily be immolated—i. e. released—but not before. The two others, which held him fast, are some two which enforced his relation to the sphere, and kept him to his service in that capacity as long as it lasted. And these two the scholiast explains of the cycle of day and night; but in my opinion it would be more consistent to explain them of the two signs of the sphere, which hem in, as it were, on either side, and confine Sagittarius to its proper place in the sphere perpetually; Scorpio, as the one next before it, and Capricorn, as the one next after it: or of the two corrections of the calendar and the sphere, B. C. 946 and B. C. 699, by which, first Libra, and then Scorpio, became the leading sign respectively—which must precede that of B. C. 452, whereby Sagittarius became so.

And that this service of the horse was not confined to *one* sphere, appears from 122. 3: "Thou, horse, art Yama. . . thou art associated with Soma, (i. e. the moon, as every sign of the Hindu sphere was, through the mansions, and the Lunar reckoning of the calendar). The sages have said there are three bindings of thee in heaven, . . . three upon earth, and three in the firmament." These three bindings of the horse in heaven, on earth, and in the firmament, respectively, are so many addictions of the horse of the sphere to the service of so many spheres, each of which had its own type for the time being both in heaven, and in the firmament, and on earth; and each of these addictions must be served out in its turn, before the subject of them could be finally liberated from the same kind of service any longer.

Now all this is easily understood, if we bear in mind the peculiar rule of the administration of the Hindu calendar from Oct. 1 B. C. 946 to March 22 A. D. 538—how the head of the calendar was advanced one month of 28 or 29 days every 247 years—how there was consequently a fresh type of the calendar, and a fresh type of the sphere, every 247 years—how the first having borne date with *Kartika* in the calendar, and *Libra* in the sphere, October 1 B. C. 946, the next bore date with *Margasirsha* in the calendar, *Scorpio* in the sphere, October 29 B. C. 699<sup>h</sup>, the third bore date with *Pausha* in the calendar, *Sagittarius* in the sphere, Nov. 27

<sup>h</sup> Fasti, iv. 46. 64 sqq.

B. C. 452, and the fourth with *Magha* in the calendar, *Capricorn* in the sphere, Dec. 25 B. C. 205—which, by a singular coincidence, was also at that time the date of the winter solstice. It is an obvious inference from these premises, that the service of the horse of the sphere to each of these types in its turn, never could have been supposed to be over, until the third type had served its time, as much as the other two—with *Sagittarius*, the leading sign in the sphere, and *Pausha*, the principal month in the calendar.

In these explanations therefore we have everything, which could be required, to account for the first idea of these two hymns, devoted to such a subject as that of the *Apotheosis* of the horse of the sphere in particular. It must have been conceived just at that period in the administration of the calendar, when *Sagittarius* was ceasing to be the principal sign in the ecliptic, and *Pausha* the principal month in the calendar, and *Capricorn* was beginning to be the former, and *Magha* to be the latter; i.e. critically, Dec. 25 B. C. 205—and it is very probable that it was suggested, at this very time, by that coincidence itself.

And this is confirmed by another remarkable coincidence, which may be inferred from these hymns to have characterized the same time and same occasion; viz. That along with this sacrifice of this horse of *Indra*, the horse of *Sagittarius*, the sacrifice of the Goat of *Pushan*, the *Capricorn* of the sphere, was going on also. It appears from pag. 56. 1-4. of this second *Ashtaka*, that the sun in Capricorn was called *Pushan*, and that his emblem was the Goat; and one of his synonymes, 56. 4. *Ajaswa*, is explained by the scholiast, of "Him who was drawn by goats," or "had goats for his horses:" cf. the third *Ashtaka* also, 496, 3, 4. 6: 498. 3: 499. 2. Now that the Goat, in this relation to *Pushan*, is supposed to be associated in this sacrifice with the horse, appears from 113. 2, 3: and 124. 12: and the sacrifice in the case of the horse, as I have shewn, having more of the nature of a consecration than of a sacrifice, on the principle of analogy it must have meant something of the same kind in the case of the Goat. And that too is explained, if the Goat, for the next 247 years, was destined to be recognised as the leading sign in the sphere, and *Magha*, the corresponding month, as the principal month in the calendar.

These two hymns then appear to authorize the inference that there are parts of this second *Ashtaka* of the *Rig-veda* which are probably neither older nor younger than B. C. 205. It is very observable too, that as the beginning of the civil year from this time forward would be fixed to the winter solstice for 247 years at least, so references occur in this *Ashtaka* more than once to the year itself, under the name of winter—for example, 212. 11: Thou art Ila, of a hundred winters—276. 10: VARUNA, . . grant to us to behold a hundred years, . . lives such as were enjoyed by (ancient) sages—290. 2: May I live a hundred winters\*.

---

\* An allusion to the standard of human life, which represents it at one hundred years, as I observed in the *Fasti*, (iv. 62 n.) occurs in the first



Again, page 111. 13. the following occurs: *Ribhus*, reposing in the solar orb, you inquire, Who awakens us, unapprehensible (sun), to this office (of sending rain)? The sun replies, "The awakener is the wind; and the year (being ended), you again to-day light up this (world)." The rainy season was ushered in by the southern monsoon; and as the year was now beginning at the winter solstice, the light of the sun itself might now be

---

book of the *Rich*, pag. 230. 9: "Since a hundred years were appointed (for the life of man);" and for the æra of this compilation, which I believe to have been cir. B. C. 800, that might be consistent with experience and observation. The ancient Etruscans, only 60 years before, assumed it at 110 equable years. But if the antiquity of this first *Ashtaka* was truly such as modern Sanskrit scholars would make it, 14 or 15 centuries at least before the vulgar æra, why should not this standard have been assumed at 120 years by the author or authors of this *Veda*, as much as by the authors of the Nundinal Correction, B. C. 1340? especially as the true standard of human life, about that time, (as it may be inferred from the testimony of Scripture,) and this assumed measure of the *seculum*, were actually the same.

The measure of human existence, thus assumed in this first and oldest of the *Vedas*, at one hundred years, seems to have determined the same thing in the opinion and idiom of the subsequent *Vedas*. Thus in the third *Ashtaka*, vol. iii. 60, v. 10, in the Prayer which there occurs, "Opulent Indra, . . . grant us to live an hundred years"—i. e., no doubt, for the utmost extent of human life. The most observable circumstance however is that a prayer of this kind, for the prolongation of existence to its utmost possible extent, first expressed in this form of an hundred years, in the oldest *Veda* itself, in two other instances of the same kind, (*Fasti*, iv. 62 n.) ran in the form of an hundred *Winters*—and in the later *Vedas*, especially in the fourth, runs still more regularly in the same form. Thus, iii. 334. 15: "By the efficacy whereof may we pass over a hundred winters—398. 7: Enjoy happiness for a hundred winters—400. 6: Enjoy happiness for a hundred winters—402. 2: Enjoy happiness for a hundred winters—417. 15: May we . . . be happy for a hundred winters—433. 10: May we . . . be happy for a hundred winters—478. 8: Agni . . . grant me a hundred winters." This peculiar idiom, in speaking of years, is explained even of the First *Veda*, by the fact that the head of the calendar in its time was falling between October 1 and 29—almost at the end of the autumnal quarter—and still more so in the case of the later *Vedas*, if none of them was older than B. C. 452—when the head of the calendar began to fall on Nov. 27—and possibly even than B. C. 205, when it began to fall on Dec. 25.

That the calendar was lunar in the time of the third *Ashtaka*, see iii. 30, ver. 1, the allusion to the month, and the half month, and iii. 75. 1. the allusion to the *Tithis*, or lunar days. The *Veda* is alluded to by name, iii. 41. 17, in a prayer to *Indra*, Cast upon the enemy of the *Veda* thy consuming weapon.

said to begin to be rekindled just as the year was ended. Cf. also 141. 44—which speaks of shearing the ground (reaping the harvest also) at the end of the year, cf. 163. 3: and that, for the climate of India, would be the case just after the winter solstice, rather than just before\*.

\* There are frequent allusions in the *Veda* also to some nine months' or ten months' rite; which, in order to form a better idea of what was probably intended by it, it is desirable to bring together.

Thus, i. in the first *Ashtaka*, (i. 167. 4)—Powerful Indra, who art to be glorified with an hymn by the seven priests, whether engaged for nine months or for ten." The proper style of these priests, as we learn from the scholia in loc., was that of the *Angirasas*, the descendants or the disciples of *Angiras*, of whom see the note, vol. i. page 3. 4: 136. 3: 187. 2: 212. 4: 325, 326—and the scholia in loc.—from which it will plainly appear that these *Angirasas* must have been the first institutors of the sacrifice of fire itself. Cf. i. 212. 4, and ii. 296. 12, and the note.

ii. In the third *Ashtaka*, iii. 65. 5: "A friend, accompanied by the faithful friends who had celebrated the nine months' rite, (and these too are explained in the note of the *Angirasas*,) and tracking the cows upon their knees, and in like manner, accompanied by those ten, who had accomplished the ten months' rite, Indra."

iii. iii. 215. 4: "Divine Dawns, may your chariot . . be frequent at this day's (worship), wherewith . . (you shine) upon the seven-mouthed (troop of the) *Angirasas*, (see i. 167. 4,) the observers of the nine or ten days' rite." This recognises an alternate sacrifice every nine and every ten days.

iv. iv. 277. 12, in the fourth *Ashtaka*: "The observers of the nine months' celebration, those of the ten months', pouring out libations, worship Indra."

v. iv. 314. 7: "At this sacrifice, the stone (i. e. with which the *Soma* was bruised), (set in motion) by the hands (of the priests), makes a noise, whereby the nine months' ministrants celebrate the ten months' worship, when *Sarama* (the bitch of Indra)," &c. Cf. ver. 6.

1b. 315. 11: "I offer to you (gods) for the sake of water, an all-bestowing sacrifice, whereby the nine months' ministrants have completed the ten months' rite." This is the first intimation which has yet occurred, that the final end of this nine or ten months' ministration was for the sake of the rain, in its season.

vi. iii. 427. 2: "To him, (Indra) the seven sages (cf. No. i. supra), our ancient progenitors, performing the nine days' rite (cf. No. iii.) were offerers of (sacrificial) food." Cf. the second *Ashtaka*, ii. 296. 12: "May they (the Maruts or Winds—addressed in this *Sūkta*,) who, the first celebrators of the ten months' rite, accomplished this sacrifice, reanimate us at the rising dawn." Also ii. 103. 4: "Let not the ten times kindled fire consume me," &c.

From the figurative language of these allusions, in which these sacrifices

are represented as instituted in order to the recovery of some cows and their milk, which had been lost, it may be inferred that their real object was to insure the recurrence of the blessing of rain in its proper season. And from the circumstance of their being supposed to last, with that object in view, sometimes for nine months, sometimes for ten, we may infer they must have been intended for a climate in which for nine months in the year, at least, rain was more or less of natural occurrence, and for the other three, there was no rain, or none which could be taken into account. And this supposed state of the case would suit the climate of India, from the beginning of April to the end of December, and from the beginning of January to the end of March, respectively; see Dr. Buchanan, *Journey from Madras*, i. 317 : ii. 433.

These sacrifices, we see, are represented in these allusions, as sometimes for nine months, and sometimes for ten, with a different set of ministers for each. The calendar being supposed to be lunar, it would require at stated times an intercalary month; and ten months in such years would be only equivalent to nine in common years. And the intercalary year of the cycle might purposely be appointed to have a different order of ministers from those of the common year. From the tenor of other allusions to them it may be inferred, that these sacrifices were performed by the same number of ministering priests, seven, sometimes for nine days together, and sometimes for ten; and that too might be explained, if the calendar was now lunar, and it was the rule with intercalary years in particular to have the usual sacrifice every nine days, by its proper order of ministers, and an extra one every ten days, by another order.

It is observable however, that in the first allusion of this kind, in the first *Ashtaka*, (No. i. supra,) the ministers, whether for nine months or for ten, are described as seven, in either case; but in the first allusion in the third *Ashtaka*, (No. ii.) the ministers in the former are represented as seven, and those in the latter as ten. It may perhaps be inferred from this distinction, that the rule in question was first introduced when the calendar was Cyclico-Julian, and the intercalary month was liable to come in only once in 120 years,—and that the rule was to perform the rite every nine days by the ministry of seven priests, in each of the common years, and to signalize the intercalary year by doing the same every ten days by the ministry of ten. And this rule, though first adapted to the intercalary rule of the Cyclico-Julian correction, B. C. 1306, might easily be accommodated to the Lunar Correction, B. C. 946.

It is also to be observed, that if the Bactrian Correction of B. C. 947 may be supposed to have had any influence on the Indian of B. C. 946, or at least, if the fire worship of the *Vedas* may have had any connection with the fire worship of Bactria, introduced by Zoroaster, B. C. 947—this Bactrian correction bore date April 10; which, for the climate of India, would be a very proper time for the beginning of a ceremony like that of the ten times kindled fire, alluded to ii. 103. 4, destined to be renewed every month, all through the rainy season, from the beginning of April to the end of December.

I will not add to the length of these observations, by proceeding to inquire circumstantially into the chronology of the Third and the Fourth *Ashtakas*, translated and published in 1857. The allusions which occur in these indeed are only general, and very indeterminate, in comparison of those which I have just been considering. It is agreed however, among Sanskrit scholars themselves, that the third and fourth books of the *Rig-veda* are of much later date than the first and second; and the internal evidence of these two, as far as it goes, to the best of my judgment, confirms that conclusion in various ways. Let me revert then, before I make an end of these remarks, to the original subject of our observations, the probable origin of the Sanskrit language.

There can be very little doubt that, after the invasion of the Punjab of India by Alexander the Great, B. C. 327 and 326<sup>l</sup>, and his conquests in that quarter, and after the rise of the two Greek kingdoms in Upper Asia, that of the Bactrian princes, and that of the Seleucidæ, the native princes in general, or those of the Punjab in particular, would be laid under the necessity of keeping up political relations with the Greeks; and therefore that it must have become a principle of state with them—a regular part of their policy—from B. C. 326 downwards, to have the most talented and promising of their youth trained up in the knowledge of the Greek language. And in the course of time, when not only the kingdoms of the Diadochi, but almost the whole of the inhabited or inhabitable world to the west of India, had succumbed to the ascendancy of Rome, and had been formed into one great empire under Augustus and his successors, the same motives of policy would incline the native governments of India to cultivate relations of amity with the Roman empire, and to educate some of their youth in a knowledge of the Roman language also. It is upon record that a communication of this kind passed between the native princes of India and the Roman government, both in the reign of Augustus<sup>k</sup> and in that of Antoninus Pius<sup>l</sup>. And as the Hindus, though not apparently endowed with much originality of invention, have shewn themselves, whenever they had the opportunity, remarkably quick of apprehension, and apt to improve upon an idea once suggested to them, it is far from improbable that, among these more talented of their youth, thus for reasons of state educated in the knowledge of the Greek and the Latin, and very possibly of more of the European languages, and made as thoroughly masters of these as of their own native tongue, some one, or more, aware of what the Egyptians had done by the invention of their Phonetic hieroglyphic, and of what the Babylonians had done by the invention of their arrow-headed character, and possibly of what many others of the nations of antiquity were also known to have done, in the same spirit of emulation or of rivalry of the example first set by the

<sup>l</sup> Origg. Kal. Hell. iii. 138–158.

<sup>k</sup> Cf. Strabo xv. 1. 250 a. Dio, liv. 9. 7. Sueton. Aug. xxi. 7. Florus, iv. 12, 62. Aurelius Victor, Cæsares, Augustus. Epitome, Augustus. Eutrop. vii. 5. and our Origg. Kal. Hell. ii. 118.

<sup>l</sup> Aurelius Victor, Cæsares, Antoninus Pius. Epitome. Porphyry, apud Euseb. Præp. Evangel.



Egyptians—might have been led to conceive the idea in which the Sanskrit, if after all a factitious thing of its kind, must have originated; that viz. of blending the vernacular languages, or Prakrit of India, and the Greek and Latin, and the other European languages, with which they had been obliged, for reasons of state, to make themselves familiar, into one language, the same with neither in its totality, yet in its elements composed of both.

And it is very possible also that, even in conceiving an idea of this kind, they had no deceptive purpose in view; they did not intend to make this new language the vehicle of a factitious system, whether of history or of chronology; but merely to contrive a language which, as far as they could render it so, should be the only authorized channel of every thing which was worth preserving, every thing which was worth teaching and knowing, in India. It would enter into the plan of such a scheme to translate every thing of this kind before in existence, from its own language into this, and to destroy the originals. So that, when the scheme should have been fully carried out, (as in fact in the course of time it appears to have been,) the whole of the literature of India should be confined to this one language. It would be part of the same project, and of the policy and management, by which only it could be realised, to educate the privileged and dominant classes in India, the priests, the nobility, the military, in the knowledge of this one language; and to accustom them to the use of this one on all the more solemn occasions, in preference to the Prakrit or vernacular languages, every where.

Such a language, so conceived and so formed, might exhibit all the phenomena which the Sanskrit does at present, in contradistinction to any other, which is known to have been the growth of time and circumstances, and yet occasion no surprise. Its elements, derived as they were partly from the vernacular languages of India, partly from the European languages of the same æra, might be blended together in any proportion, which suited the views of its authors, or the rules which they might choose to prescribe to themselves, for the execution of their own work. It might be free from all the anomalies, all the deficiencies, all the redundancies, of languages formed in the natural way—if its authors chose to make it so. It might have such a name given it, as that of the *consummated*, the *finished*, the *perfected*—for this very reason that it had been purposely made complete of its kind; and it might have borne this name from the first, and yet never have been spoken by a Sanskrit people, or in a Sanskrit country\*.

---

\* The form of civil government in India having always been the regal, and that country consequently having always been subject to kings or queens; it might very well be presumed *a priori* that if any one term was more likely than another to have run unchanged through all the phases of language in India, it must have been this, for so common and familiar an idea as that of king or queen. Now it so happens that my own in-

It is not however to be supposed that a scheme like this, though easy perhaps of conception, could have been easy of execution. Supposing the difficulty of the formation of such a language to have been successfully overcome—yet to substitute this as the only recognized vehicle of all the learning and literature of India, to install it at once, without a peer and without a rival, in the schools, the colleges, the courts of law, and the palaces, of the country every where—would be no very easy task. It is far from improbable, in my opinion, that this new language of all the learning, and science, and philosophy of India, and the religion of modern India, went hand in hand together from the first—and that, if the truth were known on this subject, the first idea of the Sanskrit arose out of the struggle in India between the more modern Braminism and the older Buddhism of that country—a struggle which, as Indian history itself, through its own traditions, seems distinctly to intimate—was not finally decided by the establishment of Braminism in its present dominant position, until long after the beginning of the Christian æra.

quiries in the *Origines Kalendarie* have brought to light the Indian for *King*, B. C. 1230, in *Deunus*, the etymon of the Greek *Δεύννος*, or *Διώννος*, (Orig. Kal. Hell. v. 80–90,) and I hope will bring to light, in like manner, the Indian for *Queen*, B. C. 1138, in the Indian *Aterga*. I would demand then, of Sanskrit scholars, if this language was the living and spoken language of India, and in the acme of its perfection, at each of these epochs, B. C. 1230, and B. C. 1138, how it has come to pass that neither *Deunus*, in the sense of *King*, nor *Aterga*, in that of *Queen*, occurs in the Sanskrit of the present day? but instead of the former, *Rājan*, and instead of the latter, *Rājñī*? the former so evidently the same with the Latin *Rex*, *Regis*, and the latter with the Latin *Regina*, that no one could hesitate to say that if the Latin *Rex* was not derived from the Sanskrit *Rājan*, or the Latin *Regina* from the Sanskrit *Rājñī*, the Sanskrit term in each of these instances must have been taken from the corresponding one in the Latin.

*Deunus* occurs in the Sanskrit at present in no form or shape. *Aterga* may seem to have been retained in the form of *Durga*, or *Durgha*. But *Durgha* is not the Sanskrit for *Queen*; but the name of the Principle of Nature personified. And *Durgha*, or *Durga*, in strictness is not the same with *Aterga*, which never occurs except as *Aterga*, *Aderga*, or *Derke*, or the like—never as *Aturga*, *Adurga*, or *Durke*. And even if retained in the modern Sanskrit from the earlier *Aterga*, or *Aderga*, this word might have been so, simply because in the form of *Durga*, or *Durgha*, it was so easily resolvable into the two elements of which Sanskrit scholars at present speak of its being composed, *Dur*, in the sense of the Greek *δυσ*, and *gha*, or *ga*, to go—meaning both together, *The difficult of approach*, *The difficult of access*—that being the characteristic point of view in which the framers of the language thought proper to regard the Universal Mother—the Principle of Nature personified!

Note FF, page 204. Astle, on the Origin and Progress of Writing, 2nd edit., 1805, ch. ii. 20: According to Tacquet, here quoted, the possible combinations of the 24 letters of the alphabet, without any repetition, would amount to 620,448,401,733,239,439,360,000. According to Clavius, also quoted, they would be, 5,852,616,738,497,664,000.

Ch. ii. 17, 18. The number of plain elementary sounds, according to Harris' *Hermes*, is about twenty; in our own language, according to Sheridan, twenty-eight—according to Kenrick not more than sixteen. According to Bp. Wilkins and Dr. Holder, the number of distinct sounds is 32 or 33.

— p. 21. The Hebrew, Samaritan, and Syriac alphabets have 22 letters; the Arabic has 28 (cf. p. 43); the Persian, Egyptian, and Coptic, 32; the Russian 41; the Sanskrit 50 (cf. p. 41), (rather 52.)

— p. 36–38. The Phœnician, the Hebrew, the Samaritan, and the Chaldee alphabets were all the same: and by far the greatest part of the alphabets any where now in use on the globe were derived from these. Astle indeed (p. 50) considers the Phœnician the oldest, and the parent of the Hebrew, the Samaritan, the Chaldee, the Punic, the Bastulan, the Greek, the Roman (p. 77), and all the modern alphabets derived from the Roman: cf. cap. iv. p. 51. and 64.

The Phœnician and the Hebrew having been originally the same, the oldest alphabet and the antediluvian alphabet may be said to have been either the one or the other, indifferently.

Note GG, page 207. Gen. iv. 26: This verse is rendered in the *ο'*, *Ὁς-τος ἡλπισεν ἐπικαλεῖσθαι τὸ ὄνομα Κυρίου τοῦ Θεοῦ*—which restricts its application to the case of Enos, the son of Seth, whose birth was mentioned just before; and to his, apparently, in some such sense as *this*—That Enos was the first of mankind who hoped (that is, ventured, as if permitted) to call on himself the name of Jehovah; to call himself by the name of Jehovah, as if dedicated to him—as if his servant, in some peculiar manner. And this version of the *ο'* would seem to have determined the marginal rendering of our English Bible; "Then began men to call themselves by the name of the LORD."

With regard to the words of the original—the language of Gen. xxi. 33<sup>1</sup> is very analogous to that of Gen. iv. 26. Abraham is there said to have planted a grove in Beersheba, and then, *Ouikoura shem beshem Ieoueh*. There is little difference between *Ouikoura shem beshem Ieoueh*, Gen. xxi. 33, and *Lakoura beshem Ieoueh*, Gen. iv. 26: and if the former is determined by the context to mean, And (Abraham) called upon *God* (i. e. invoked God) by the name of Jehovah, the latter, on the same principle, would require to be rendered, "Then began men to call upon (that is, to invoke) *God* by the name of Jehovah:" as it is, if not by Aquila, *Τότε ἤρχθη τοῦ καλεῖσθαι ἐν ὀνόματι Κυρίου*<sup>m</sup>—yet by Jerome, *Tunc initium fuit invocandi nomen Domini*<sup>n</sup>.

<sup>1</sup> Cf. also, xii. 8. xiii. 4. xxvi. 25.  
iv. 26.

<sup>m</sup> Montfaucon, *Hexapla*, i. 20. Gen.

<sup>n</sup> *Ibid.* *Questiones in Genes.*

I take *lakoura* in this text to have the sense of *ἐπικαλεῖσθαι*, absolutely, in Greek; and the most correct version of the whole to be in Greek as follows: *Τότε ἤρχθη τοῦ ἐπικαλεῖσθαι ἐν ὀνόματι Κυρίου*; and in English, "Then was it begun to invoke by the name of Jehovah." *Ἐπικαλεῖσθαι*, so used, has the sense of *to call upon, to invoke*, viz. God (as the proper object of invocation and prayer) understood: an use, of which one clear instance occurs in the New Testament, at Acts vii. 59: *Καὶ ἐλιθοβόλουν τὸν Στέφανον, ἐπικαλούμενον, invoking and calling upon*, as the context implies, Jesus, and *saying* &c.: and many more in the Septuagint version of the Old Testament; as, Gen. xii. 8: Job, v. 1; xxvii. 10: Ps. iv. 1; cxiv. 2: Prov. xxi. 13: 1 Kings, xviii. 24, 25. 26, 27, 28: 2 Kings, v. 11; in which *Ἐπικαλεῖσθαι ἐν ὀνόματι Κυρίου* is the version of *Lakoura beshem Jeoueh*—and in the English also should have been rendered by "to call upon, to invoke (God) by the name of Jehovah;" and not by "to call on the name of Jehovah."

The historical fact then, asserted in this text, is *this*, viz. That at, or about, the time of the birth of the patriarch Enos, i. e. at or about A. M. 239, Æra Cyc. 239, B. C. 3766°, men first began to call upon God, to invoke and address God, in prayer, by the name of Jehovah. And whatsoever may be implied by this fact itself, the inference from it, with respect to the language which men must have been speaking at the time, will be the same; viz. that this language must have been that which supplied the name of Jehovah: and if that must have been the Hebrew language, the Hebrew must have been the language which men were speaking at the time; and if so, the antediluvian language—the language which men spoke from the Creation to the Deluge at least.

And as to the fact itself, or what must be understood by men's having begun, just at this time, to invoke the Supreme Being by the name of Jehovah—it appears to me that it cannot admit of more than *two* constructions—either that the name of Jehovah, as the proper appellation of the Supreme Being, though hitherto unknown and unrecognised in that relation, was first recognised and first applied, at this time; or, though possibly known before, was now only first adopted as that by which he should thenceforward be addressed as the proper object of prayer and thanksgiving. And of these two, it seems to me infinitely more probable that, at *this* period of the history of mankind, men should be found agreeing to recognise the proper object of an old and familiar duty by a new name, than an old and familiar name, and the subject denoted by it, as the proper object of a new duty. For what would be implied by this latter supposition? what but that, until the birth of Enos, 238 years at least after the creation of man, their own Creator, though known to men by a name of his own, had never yet been recognised by them as the object of prayer or praise!

It appears to be agreed among Hebrew scholars at present, that this name of Jehovah is ultimately to be traced up to the substantive verb in



Hebrew היה, *Heïeh*, *to be*—so that its derivation from the Hebrew will be, in any case, an incontrovertible point. When Moses, Exod. iii. 13, inquired after the name of the Being who was appearing to him there and then in the flame of fire in the Bush—the answer (iii. 14) was, *Æïeh assir Æïeh*—which the *o'* render 'Εγώ εἰμι ὁ ὢν—Gesenius, I (*ever*) shall be (*the same*) that I am (*to-day*)—our own version, the most closely to the original and the most forcibly of all, I AM that I AM. But, in any case, \*as Gesenius observes, the name, as derived from the verb *to be*, to whatsoever it was applicable, carried with it *virtute termini* the idea of the *Eternal* and the *Immutable*, as inherent in that subject—the idea of that which could never be other than it was. The most appropriate version of such a name, and so derived, in our language, it appears to me, would be the participle of our own verb *to be*, used absolutely and as a substantive, THE BEING—'Ο ὢν κατ' ἐξοχήν—who Was, and Is, and Is to come—the same *To-day*, *Yesterday*, and *For ever*. As soon as men came to reflect on their own origin, and that of every thing else around them, and while they were still fresh themselves from the hands of their own Creator; they could not fail to see that, while every thing else, as the work of this Creator, must own to a derived and dependent existence, this Creator himself must have been prior to and independent of all other existences, and to their apprehension must be self-existent. And it might naturally appear even to their own reason that, if one word was better adapted than another to express this essential and most characteristic distinction between the Creator and even the highest and noblest of his creatures, it must be this, of the Jehovah in the Hebrew, the ὢν in the Greek, the Being in English, the Self-existent—the common idea denoted by each of these terms—in which every attribute and perfection of the Divine Nature itself, and more especially those of ETERNITY, OMNIPRESENCE, OMNISCIENCE, and OMNIPOTENCE, were virtually summed up in one.

Such appears to have been the *Rationale* or *Process* by which the human mind was first led to the choice of this most appropriate name of the Great Universal cause of all things, the Great First Source of life and being to every thing distinct from itself. And all that Gen. iv. 26 does, to clear up the history of the process, is to make us aware that this idea of the Supreme Being was first distinctly elaborated by the human understanding, and first found an expression in this most significant of all the terms which could have been adopted for it in any human language, at or about the time of the birth of Enos, in the third generation from the Creation. And though this account of the origin of the name will imply that it could not have been divinely revealed; that will be no objection: for there will still be nothing in the nature of the discovery of such a name at last, or in the steps of the process by which only it could be attained to, to place it beyond the reach of the human understanding in the natural exercise of its own powers, or to take it out of the ordinary course of the human thought or reflection, employed on itself or on other things. The difficulty, if any, connected with this explanation of the origin of the name of Jehovah, will be *historical* not *metaphysical*; not, How it was first con-

ceived, but When? and Whether for the first time at or about the birth of Enos, or before it?

We read in Gen. iv. 1 as early in human history even as the birth of Cain, (i. e. according to the opinion maintained in the *Fasti Catholici* <sup>p</sup>, during the continuance of the state of Paradise itself,) that this name of Cain was given to this first son of Adam and Eve, because, by acquiring this first male child, Eve his mother had gotten a man, *ath Ieoueh*—whether, *For Jehovah*, as I contended <sup>p</sup> it should be rendered, or *From Jehovah*, as it is rendered in the authorised version, will make no difference to the inference apparently deducible from the language of the original, in either case, as to the name of Jehovah itself—viz. That it must have been familiar to Adam and Eve, even before the birth of Cain.

With respect to this difficulty, i. if we compare iv. 25, the language attributed to Eve at the birth of Seth, with iv. 1, this account of what she must be supposed to have said at the birth of Cain, we may perhaps not think it improbable that as she spoke of Seth, iv. 25, as the gift of Alehim, so she might have spoken of Cain, iv. 1, as a gift for Alehim too. ii. If we refer to the version of iv. 1, in the *o'*, we shall see reason to suspect that the Hebrew text, in their time, read Alehim in this instance, and not Jehovah; for their own version of it is Ἐκτησάμην ἄνθρωπον διὰ τοῦ θεοῦ, not διὰ τοῦ Κυρίου. iii. When we consider that the account of what Eve said, on this occasion of the birth of Cain, is simply historical, and that, in the time of the author of the book of Genesis, the recognised style of the *Alehim* of antediluvian antiquity, in his personal relation to man in particular, had long been that of *Jehovah*; we shall almost feel ourselves justified in inferring that, though Eve might actually have said on this occasion, “I have gotten a man for Alehim,” the historian of what she said, writing so long after, and under the habitual influence of a very different association of ideas, knowing of what it was intended, might have represented it, differently indeed in the expression, but altogether the same in the sense, “I have gotten a man for Jehovah.”

The human origin at least of this mysterious name, (for so the Jewish church of later times regarded it,) the first idea of its application and appropriation to the *Alehim* of the beginning, as not derived from revelation, as excogitated by men for themselves, is perhaps most strongly intimated by the words of Jehovah himself to Moses, Exod. vi. 3: *Ouara al Abe-rem, al Itseek, oual Iacoub, balshedi; oushemi Ieoueh lu noudathi lem.* The most important word in this text is the *Noudathi*; and to illustrate the use and meaning of that verb here, we cannot appeal to a better instance than Numb. xvi. 5, where Moses is represented saying to Korah and his followers, “To-morrow, and Jehovah will know the one that is his.” The verb is *ida* here too; and the common meaning of *ida* in Hebrew is *to know*. But to know, as used here, is evidently emphatic; and means something more than merely knowing—viz. so knowing as to declare he knew,—knowing with a recognition, an approval, and a sanc-

<sup>p</sup> *Fasti*, ii. 253.

tion, of some overt and public kind<sup>a</sup>. Exod. vi. 3, in this respect, is analogous to Numb. xvi. 5: and though the verb is in the conjugation Niphal, which is properly passive, yet agreeably to a well known Hebrew idiom, in the use even of the passives of this kind<sup>r</sup>, the text may be rendered, "And I was seen (revealed myself) to Abraham, to Isaac, and to Jacob, by Al shedi (in and through my name and relation of God Almighty), and my name of Jehovah I did not know for them—i. e. I did not so know as to shew, that, by knowing it, I adopted it, I recognised and approved, and sanctioned it, more than, or instead of, my name of Al shedi."

It is necessary to draw this distinction between the simply knowing, and the thereby implied approving and sanctioning, of this name; because there are almost innumerable passages between Gen. xii. 1. when God first revealed himself to Abraham, and Exod. vi. 3. which are demonstrative that he must have been as well known to the three Patriarchs, Abraham, Isaac, and Jacob, by this name of Jehovah, as by any other of his titles, *Alehim*, *Al Alioun*, *Al shedi*, or the like: and some texts there are in which even he himself speaks to them of himself by the name of Jehovah<sup>s</sup>. And yet none of these instances of the application of this name to the Supreme Being, whether by others or by himself, of prior date to Exod. vi. 3. is inconsistent with that text. They imply nothing but the simple recognition of an indisputable matter of fact; that, as used by the Patriarchs of their own *Alehim*, it was still as the proper name of the Supreme Being; as used by their *Alehim* of himself, it was used as the name of that Being whom they supposed themselves to designate by it. And it will still be true that the name by which he was pleased to reveal himself to the Patriarchs, as their personal God, or under which he was recognized by them, most regularly and most solemnly, before the Exodus, was this of *Al shedi*, as the reader may see, Gen. xvii. 1: xxviii. 3: xxxv. 11: xliii. 14: xlviii. 3: xlix. 25. as well as Exod. vi. 3. and Numbers xxiv. 4. 16. And it is equally true that as spoken of by his worshippers, on occasions of more than usual solemnity, he is designated by other titles, without this, as that of *Al Alioun*, God most High<sup>t</sup>, or by others along with this, as Jehovah, God of heaven, and God of earth<sup>v</sup>, Jehovah, God of my lord Abraham<sup>x</sup>, Jehovah, God everlasting<sup>y</sup>.

From this account of the origin, and the use and application of the name of Jehovah, both in the antediluvian and in the postdiluvian world, the reader will not fail to appreciate at its true value the discovery of the French physician Astruc, who, from the absence of the name of Jehovah in the first chapter of Genesis, and its repeated occurrence in the subsequent chapters, first divined, as he imagined, the secret of the composition of this book, as made up out of two kinds of documents, one, the work of an author who knew of the Deity only by the name of *Elohim*, the other of

<sup>a</sup> Cf. Psalm i. 6.  
sextum, Conjugatio Niphal i.

xxii. 16: xxviii. 13.

<sup>x</sup> xxiv. 12. 27.

<sup>r</sup> Vide Masclef, Grammatica Hebraica, i. 102. Cap.

<sup>s</sup> Gen. xv. 7: xviii. 14. 19: (cf. xix. 13.)

<sup>t</sup> Gen. xv. 18, 19, 20-22.

<sup>v</sup> Gen. xxiv. 3. 7.

<sup>y</sup> xxi. 33.

one who knew of him only by the name of *Jehovah*; and so first broached the hypothesis of an Elohistic Genesis and a Jehovistic Genesis respectively.

This hypothesis, which appeared first in 1753, found much favour with the sceptics of its own day, and of subsequent times; but it is now given up even by the Rationalists of Germany themselves: the distinction, on which it was based, having been found in fact untenable—the name of *Jehovah* occurring repeatedly in the supposed Elohistic parts of Genesis, and the name of *Elohim* repeatedly in the supposed Jehovistic. How little foundation however for any such division of the authorship of the book of Genesis as that which was made by this theory, the presence or the absence of the name of *Jehovah*, in the different parts of the book, was calculated to supply, the reader cannot fail to perceive, if I have succeeded in proving that the true epoch of the first introduction of this name was Gen. iv. 26, and the first actual instance of its use and application was thus noticed in its proper order of time by the author of the book himself. For what, if the word occurs repeatedly before Gen. iv. 26, and in its proper use and application too? Is it conceivable that it could have been employed in all these instances through ignorance or mistake, by one, who shews at Gen. iv. 26. he was so well aware how and when it actually came into being?

It is observable that in all these cases, except that of iv. 1. considered *supra*, the use of the term is simply historical. It is the author of the narrative, not some one speaking at the time, who uses it. And what is the legitimate inference from these repeated instances of its use historically, so long before its time, except that, in the time of the author this term was so commonly received and recognised in this particular use and application, that none else could now with propriety be used for the same purpose, even from the first?

It may be objected however that this use of the name of *Jehovah* prophetically in the rest of the history of the book of Genesis before iv. 26. would have required it to be used in the first chapter, as much as in the second or third. The explanation of this seeming inconsistency involves a very important distinction—such as was never likely to occur to the mind of a sceptic, but, to the apprehension and judgment of the simple minded and honest believer, the moment it is proposed, carries with it the clearest proof of the unity of the authorship of the different parts of the book of Genesis itself, and of the Spirit of truth, under the direction of which every part of it must have been written.

The whole of this first chapter of Genesis is devoted to one subject, the history of the creation—whether as beginning with the very first act of that kind, Gen. i. 1. or with the particular account of the creation of our own world, from Gen. i. 3. to the end. Now, according to the doctrine of Holy Scripture, Creation as such, and under all circumstances, was the

\* Gen. ii. 4. 5. 7. 8. 9. 15. 18. 19. 21. 22 : iii. 1. 8. 9. 13. 14. 21. 22. 23 : iv. 1. 2. 3. 4. 6. 9. 13. 15. 16.



work of each and all of the THREE PERSONS of the ever undivided TRINITY; and it was impossible that it could be otherwise represented by one who was aware of the truth on that point, and describing the course of things accordingly. With reason therefore is nothing found in this first chapter, to designate and individualize the agency in this common work of Creation, but the phrase *Bara Elohim*—implying in the plural form of the *Elohim* a plurality of the agents indeed, but in the singular form of the *Bara*, an unity of will and purpose, as well as of power and effect, in each and all of the acts of creation itself.

But after this first chapter, and the first three verses of the second, (which ought not to have been separated from it,) the history which follows, through the rest of the book of Genesis, and in fact through the whole of the Old and the New Testament, is no longer that of the Creation, but that of the dealings of the Creator with his own creatures in general, and with one class of them, his rational creatures, in particular. It is the history of the dealings of the Creator with his human creatures; first, from the Creation to the Fall, and then from the Fall to their recovery, through the consummation of the scheme of their Redemption. Now, with respect to this intercourse between the Creator and his rational creatures, in the sense of human, it is the doctrine of Scripture also, that it has never been carried on, from the first, except through one instrumentality, that of the mediation of the Second Person of the Trinity, and in one way, that of direct communication with him, in his own Person, or through those, whom he had himself commissioned to speak and to act in his name. It is not necessary for the satisfaction of those, who have duly attended to, and profited by, the testimony of the Christian Scriptures themselves on this point, to prove that the God of the Old Testament—the God of Adam and Eve in the Garden of Eden—the God of Abel and Seth—the God of Enoch—the God of Noah—the God of Abraham, Isaac, and Jacob—the God of Moses and Aaron—the God of the Prophets—the Angel Jehovah<sup>a</sup>—the Angel of the Covenant<sup>b</sup>—the Archangel Michael<sup>c</sup>—the Mediator between God and Man<sup>d</sup>—the Word of God<sup>e</sup>—was none else than he who, in the fulness of time, took our nature upon him in the person of Jesus Christ.

Now this being the case, it was to be expected *a priori* that as soon as the History in the Book of Genesis, in the course of its proper subject, passed from the account of the Creation in general to that of the dealings of the Creator with his human creatures in particular, the style of the narrative, in speaking even of the Creator himself, would begin to be modified, and that a personal name, applicable to the individual relation of this One of the Three Divine Persons in particular, to this one class of

<sup>a</sup> Gen. xvi. 7-14 : xix. 13, 14, 16 : xxi. 17, 18 : xxii. 11, 15 : xxxi. 11-13 : xlviii. 16. Exod. iii. 2, 4. Acts vii. 38. Exod. xiv. 19 : xxxii. 34 : xxxiii. 2. Numb. xxii. 22-35. Joshua v. 14, 15. Judges ii. 1-5 : vi. 11-23. 27 : xiii. 3-23. Hos. xii. 4, 5, 6. Zech. i. 12. vi. 4-8. <sup>b</sup> Isaiah lxiii. 9. <sup>c</sup> Dan. x. 13, 21 : xii. 1. Jude 9. Rev. xii. 7. <sup>d</sup> Galat. iii. 19. <sup>e</sup> John i. 1.

their creatures in common, would take the place of that of *Elohim*, applicable to the relation of all the Three Divine Persons in common to the creatures of them all in common. And though both *Elohim* and *Jehovah* might seem *a priori* to be names equally applicable *per se* to the Divine nature, and therefore either of them as proper for a personal designation of the Deity as the other—a distinction in the use of each respectively *de facto* holds good in Scripture—which is very important on this question; viz. that while one of them is found to be predicated both of each of the three, in the singular *Eloah*, and of all together, in the plural *Elohim*, the other, *Jehovah*, is never found predicated of all the three persons in the plural, but always of each in particular<sup>c</sup>. There is no plural of *Jehovah*, in the idiom and usage of Scripture, as there is of *Eloah*. It is manifest therefore that, while *Elohim* might be the personal designation of all the Three Persons at once, *Jehovah* must be the proper style of each of them in particular. And of this we cannot have a better proof than Gen. xix. 24—where *Jehovah*, the Second Person, then on earth, is said to have rained down fire and brimstone on Sodom, from *Jehovah*, the First Person, in Heaven—or, Gen. xxii. 16, in the account of the sacrifice of Isaac, where *Jehovah-Melak*, the Second Person, first mentioned xxii. 11, 12, is represented calling to Abraham out of heaven, a second time, to announce to him the oath of *Jehovah*, the First Person—"By myself have I sworn, saith *Jehovah*"—Or, (to fetch an example of the same idiom from the Christian Scriptures,) 2 Tim. i. 18, where St. Paul, speaking of the good services rendered to himself by Onesiphorus, intercedes in his behalf, that the *Lord* (*Jehovah*, the First Person) would grant him to find mercy from the *Lord* (*Jehovah*, the Second Person) in *that day*," that is, the day of judgment.

It is very observable accordingly that, beginning Gen. ii. 4, the style of the narrative, in speaking of the Creator himself, undergoes a change from *Elohim* in general, before used, to *Jehovah-Elohim* in particular; and once introduced, Gen. ii. 4, this continues to be the recognised mode of speaking of him down to the end of chap. iii.—that is, all through the still continuing state of Paradise. It is only with the beginning of chap. iv. (i. e. the history of the course of things from and after the Fall,) that this style of *Jehovah-Elohim* is dropped, and that of *Jehovah* alone is substituted for it. And it is an obvious inference from this distinction, that while the proper *personal* style of the Creator in relation to, and in his intercourse with, his human creatures, whether before or after the Fall, was alike that of *Jehovah*, there was something in the nature of his relation to them, and in his intercourse with them, before the Fall, different from what there was after the Fall, and no doubt in consequence of the Fall; the presence of which before the Fall was probably expressed by this addition of *Elohim* to his Personal designation of *Jehovah*, as proper for that time,—and its absence after the Fall, by the withdrawal of this addition, in consequence of the Fall, as no longer proper after that. And possibly the explanation of this distinction is found in what some Hebrew

<sup>c</sup> Cf. Numbers, vi. 24-26 : Deuteronomy, vi. 4.

scholars have supposed the true meaning of this word *Elohim* itself <sup>d</sup>—as predicable of the Deity only as the source of unmixed good, to every thing to which he stood in the relation of *Eloah*, or *Elohim*. A *Personal Jehovah* must have been *Elohim* also, in this sense, to *all* his creatures, and especially to his rational human creatures, before the Fall; but could continue so no longer, in the same sense and to the same extent as before, after the Fall,—until the effects of the Fall, in disturbing the original relations between the Creator and his rational and responsible creatures, should have been done away.

Note HH, page 231. See the Fasti, iii. 228, 229, 303, 304: and Origines Kalendarie Hellenicæ, iv. 111 n., from which it may be inferred that both the pretended appearances of the Phoenix, every 500 years, and the reckoning of the Great Period of 48,000 years, were kept in the Period of 4000 years, 8 Phoenix Cycles, and its multiples.

Note II, page 234. Scheme of the Succession of Mean Lunar Time, in the Period of 600 equable years, from Period i, Mesore 14, Æra Cyc. 0—1, April 29, B. C. 4004, to Period xi, Mesore 14, Æra Cyc. 6000—6001, Nab. 2741—2742, March 21, A. D. 1993.

Period	Æra Cyclica.		Midnight. Nab. Mesore.	B. C.	Midnight.	Luna
i.	0—1		14	4004	Apr. 29	ia
ii.	600—601		14	3405	Nov. 30	iiia
iii.	1200—1201		14	2805	July 3	iiia
iv.	1800—1801		14	2205	Feb. 4	iva
v.	2400—2401		14	1606	Sept. 7	va
vi.	3000—3001		14	1006	Apr. 10	vja
vii.	3600—3601	Nab. 341—342	14	407	Nov. 11	vija
viii.	4200—4201	941—942	14	A. D. 194	June 14	viiia
ix.	4800—4801	1541—1542	14	794	Jan. 15	ixa
x.	5400—5401	2141—2142	14	1393	Aug. 18	xia
xi.	6000—6001	2741—2742	14	1993	Mar. 21	xiia

Note KK, page 234. The result is the same, if we divide the sum of mean solar time in 25 equable years, 9125 days, diminished by one hour, 9124 days, 23 hours, by the number of integral lunar months in one lunar and solar cycle of 25 equable years, 309. The quotient in this case too is, 29 d. 12 h. 44 m. 4.660 194 sec.

<sup>d</sup> See my Exposition of the Parables, Vol. v. Part ii. 354 note.

Note LL. page 240. The phenomenon of which we have to give some explanation, (that of the descent of annual time, in its proper Julian and proper hebdomadal style, one term only in the former, and two terms in the latter, every 112 or 140 years, before a certain time, apparently under the very same circumstances under which it descends only one term in each in the same length of time at present,) this phenomenon, I say, is attested by the matter of fact, in coming down with annual and hebdomadal time, under the proper Julian style of both, from the beginning of things to the time in question, at every period of its decursus, at which an appeal can be made to that kind of proof: and simply as a fact, so confirmed by testimony perpetually, it was long known to me before the principle or rationale of the phenomenon (from the knowledge of which *a priori* it must always have been expected) was yet understood.

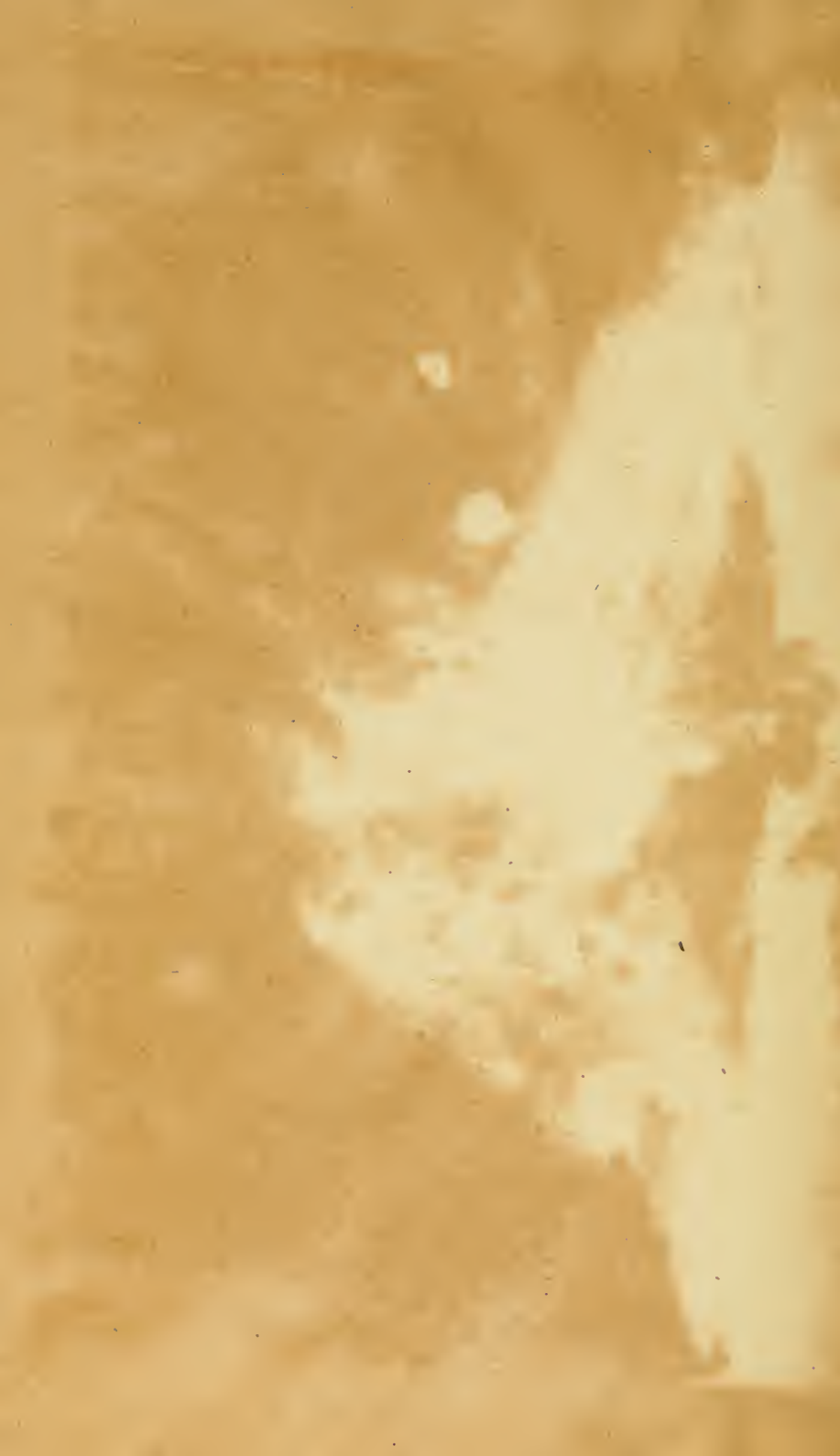
The distinctions however which are necessary to clear up this point are so subtle and recondite, and withal so new and so much opposed to the inveterate prejudices of chronologers, that it ought not to appear extraordinary if even the author of the *Fasti* and the *Origines* himself, coming to the investigation of this question for the first time, and not yet free from the common misapprehensions on this subject, should not have succeeded to the satisfaction of himself or of his readers, in his first attempts at the solution of so intricate a problem. The discovery of the truth on so abstruse a point could be only the work of time; and first ideas on such a subject would constantly stand in need of that revision and correction which could be administered only by further reflection, and a deeper insight into the nature of the case.

Under these circumstances, the best advice which I can give the reader who is desirous of thoroughly investigating this point, is to begin with our latest Explanations. If any one, for instance, will be at the trouble of mastering the *Prolegomena* of the *Origines Kalendarie Hellenicæ*, (which may be done with ordinary pains and study,) he will probably gain from that a correct idea of the true principle of the explanation: and he may then pass to the Preliminary Address of the *Origines Kalendarie Italicæ*, in which the same explanation is attempted on the principles of the Technical and Positive rule of the administration of Natural and Julian time, from the first, in the system of the Tables. After that there will be little obscurity in those parts of the *Fasti Catholici*, (*Dissertations* vi. and viii. of vol. i.) where the solution of the same problem was first attempted, which the better light and knowledge, and the more distinct ideas, already acquired on the same subject, will not enable him to clear up for himself.









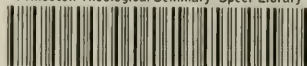




BS480 .G83

The three witnesses, and the threefold

Princeton Theological Seminary-Speer Library



1 1012 00051 9605